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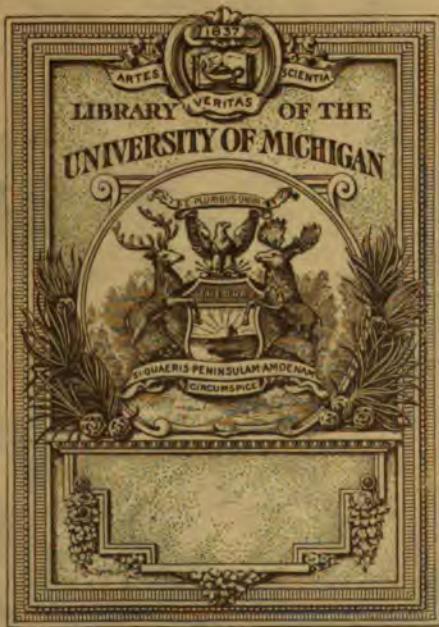
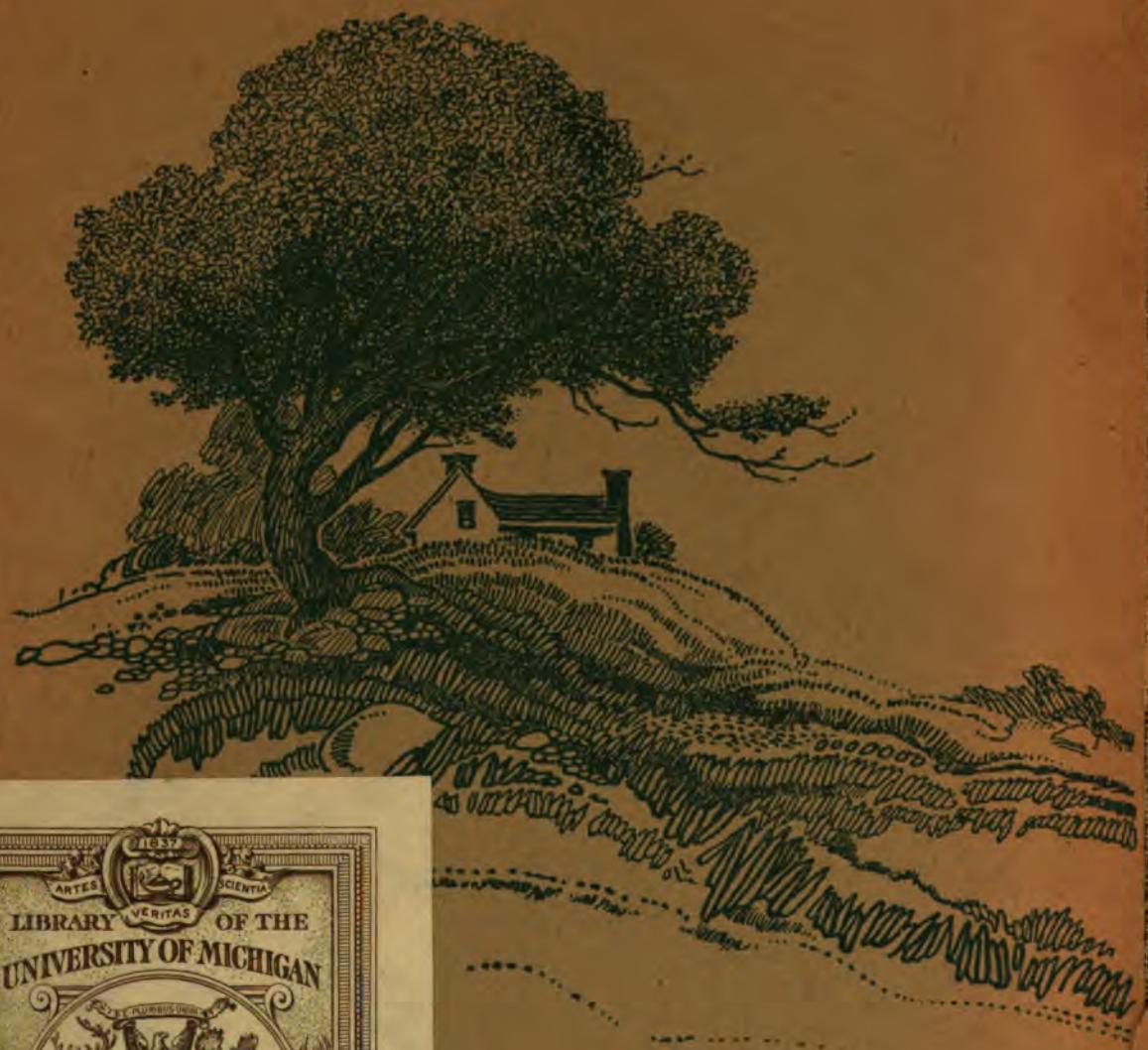
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RECLAIMING THE OLD HOUSE



CHAS. EDW. HOOPER



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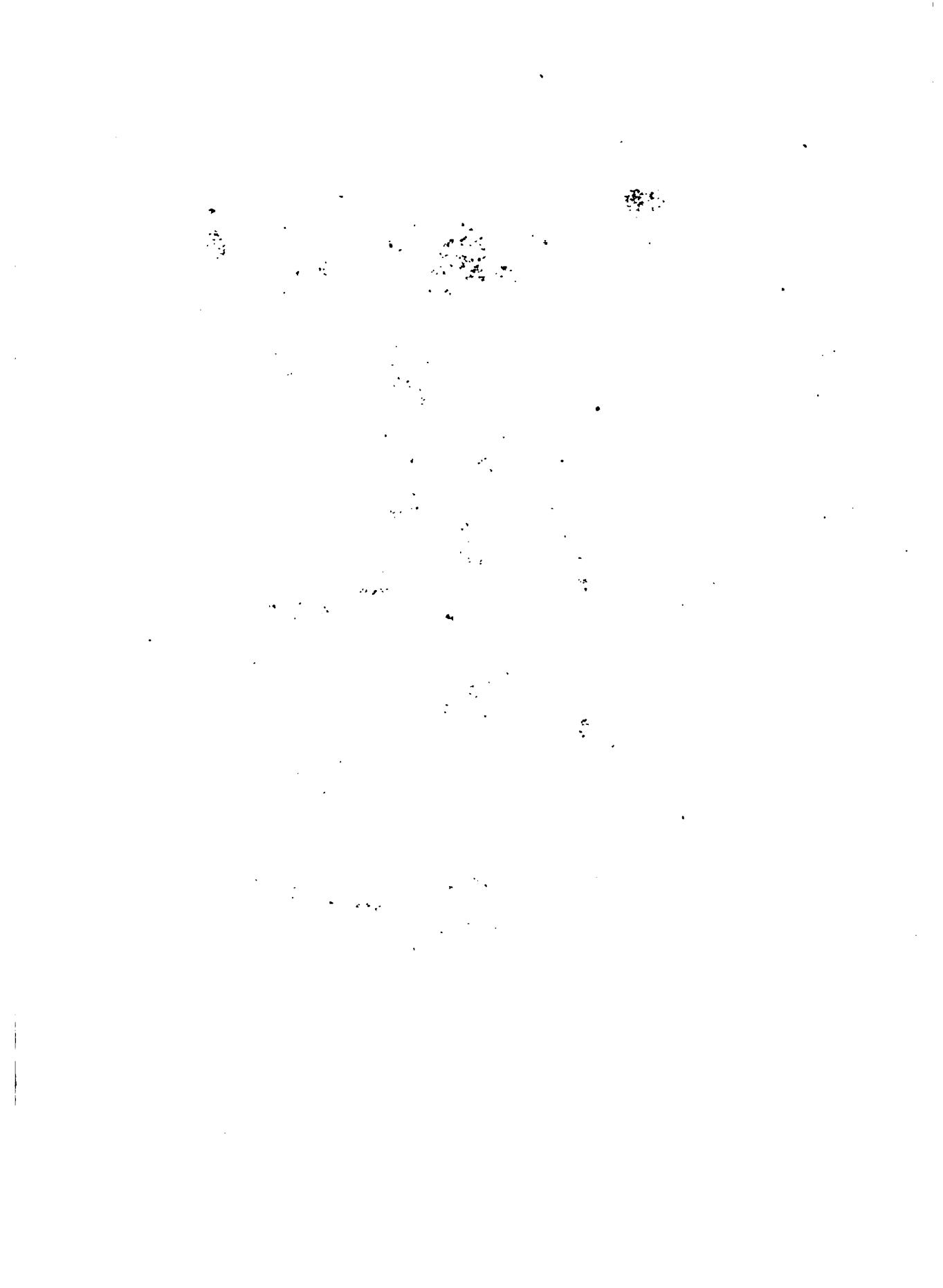
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The old Whitman house at Farmington, Conn. A fine example of the simpler Pre-Georgian types, as translated into wood from the English half-timber tradition. It is a modified "B" plan (see page 28) of about 1680

RECLAIMING THE OLD HOUSE

ITS MODERN PROBLEMS AND
THEIR SOLUTION AS GOVERNED BY
THE METHODS OF ITS BUILDERS

Written and largely illustrated by

CHAS. EDW. HOOPER

Author of "The Country House"



NEW YORK

McBride, Nast & Company, Publishers

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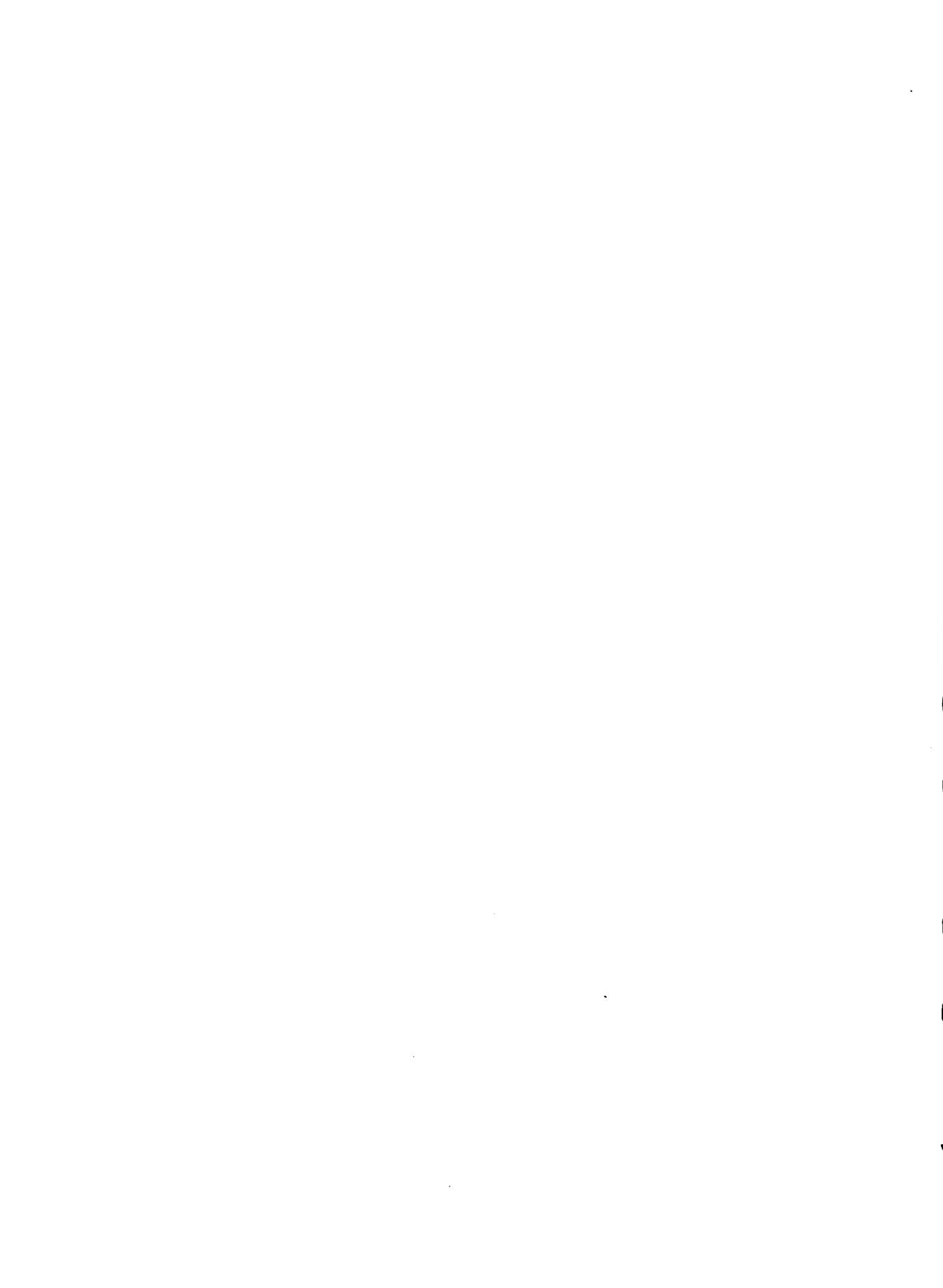
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Published, April, 1913

To John Henry Hooper





REFACE.



One can do much with an old-time house by understanding its language; a step further—one has a better knowledge of French, who can think in French. The old house was not as a rule the brain child of the professional or even amateur architect; almost always it was conceived in a mind steeped in tradition and born only when the last shaving fell from the plane of its craftsman parent. Tradition and custom thus applied and supplemented by local limitation, could breed only localism. But if tradition bred localism, localism in turn bred variety; every section did not solve its problems in the same way; its language is often as diverse as that of the several German states. Because of this the average architect is seldom successful in restoring the old house; the note from Westover or Mt. Vernon rings false in halls of Ladd or Van Cortlandt. The craftsman sought expression by means of methods unfamiliar to the architect, methods which were apart from his training. The traditions of the father were the heritage of the son; the art of the world is the heritage of the architect.

The reader may find that *his* localisms differ slightly from such as we may herein describe. This we expect as a matter of course; we have not searched every nook and corner; we are not writing a history. It was localism that marked the old house as a native born; it is thus evident that the local touch gives the local flavor. This fact we wish to impress strongly. The native-born walks the streets of his own town without comment; 'tis the foreigner who is noticeable, whose accent or pronunciation is false. The more man has been driven by necessity, the more concentrated has been his endeavor, the better his results. The forced conditions of the early settlers has given us the best of Colonial tradition. To study old houses, one must be an antiquarian, even though his researches extend no further than his own dooryard. Therefore we beg the reader to seek for himself the inspiration that awaits him in such examples as surround *his* old house.

We would here acknowledge the courtesy of Doubleday, Page & Company and The Crowell Publishing Company in allowing us the use of photographs and drawings already published in *Country Life in America* and the *Woman's Home Companion*. We have identified those of the former by "C. L."; those of the latter by "W. H. C."



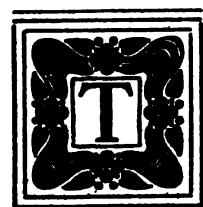


TABLE OF CONTENTS.

<i>Chapter One</i>	
SELECTION	13
<i>Chapter Two</i>	
PLANNING	25
<i>Chapter Three</i>	
EXTERIOR DETAILS	42
<i>Chapter Four</i>	
INTERIOR DETAILS	57
<i>Chapter Five</i>	
HARDWARE	73
<i>Chapter Six</i>	
FURNITURE	86
<i>Chapter Seven</i>	
A PRACTICAL EXAMPLE	101
<i>Chapter Eight</i>	
OUTBUILDINGS, ETC.	113
<i>Chapter Nine</i>	
THE GARDEN	128
<i>Chapter Ten</i>	
FENCES AND ENCLOSURES	148
GLOSSARY	161



LIST OF ILLUSTRATIONS.

Note—The dates given are those commonly accepted; with very few exceptions they have not been verified by the author. They are apt to be earlier than the house as it appears, although the core may be much earlier than the skin. The local historian is likely to give us what looks well and is satisfactory to his public, regardless of plausibility.

	Frontispieces
	FACING PAGE
The old Whitman house, Farmington, Conn. (1680)	13
The Joel West house, East Hampton, Conn.	14
Variations of the highway frontage	15
The heritage of big trees	15
A bit of the coast as a prospect	16
The apple orchard as a feature of the site	16
An old house with a sound frame but dilapidated exterior	19
A fisherman's cottage at Martha's Vineyard	19
An old house sheltered by two trees	22
A good example of the old Colonial type	23
A prospect in the Connecticut Valley	23
An old house nestling close to the water's edge	23
The Peter Tufts house, Medford, Mass. (1677-1680)	26
An Asher Benjamin house at Windsor, Vt.	26
One of the Ellsworth houses at Windsor, Vt. (about 1750)	27
An old house of "B" plan with a chimney stack	27
"Grumblethorp," Germantown, Pa.	28
"Stenton," Germantown, Pa. (1727)	30
The Nelson house, Yorktown, Va.	31
A Southern type with the two-storied piazza	31
An old Connecticut gambrel-roof house	38
An old Dutch house on Long Island, N. Y.	38
An example of Greek influence on late New England Georgian	39
An old house at Yorktown, Va.	39
Two examples of the three-story house	44
Entrance motive to Hollister house, Greenfield, Mass. (1800)	44
Detail of the Bowne house, Flushing, Long Island, N. Y.	45
The "stoep" of a Dutch house on Long Island, N. Y.	45
Two Colonial craftsmen's doorways	48
Details of a Dutch house on Long Island, N. Y.	49
Late New England Colonial entrance influenced by the Greek Revival	49
The Taylor house, Roxbury, Mass.	54
A rear piazza in the Connecticut Valley	54
Detail of an overhang with chamfered posts	55
Overhang detail of Whitman house, Farmington, Conn.	55
An old kitchen of the pre-Revolution period	60
Hall of a Dutch house on Long Island, N. Y.	61
Detail of the Bowne house, Flushing, Long Island, N. Y.	61
Built-in buffet of the early type	66
Southern interior doorway	66
A New England hallway (about 1750)	67
An example of the Southern stairway in the North	67
A Southern interior doorway of the later period	70
A Southern mantel of the middle period	70
A New England mantel and Franklin stove	71
A Dutch mantel from Long Island, N. Y.	71
Old locks, hinges, latches and knockers	74
Wrought-iron latch grips for exteriors, and knockers	75
Iron, bronze and brass latches, and knockers	76

LIST OF ILLUSTRATIONS

	FACING PAGE
Brass and bronze knockers	79
Knockers, surface-hinge and door scrapers	84
Reproductions in brass of latches and knockers	85
Old and modern Colonial wall papers	88
An old hooked rug and a modern design	89
Old and new Colonial furniture	94
Two old mirrors with eagle emblems	95
An old-time lantern	95
Inlaid lyre hat-tree and a tip table	95
Old and new Colonial chairs	98
A Colonial dining-room	99
A Colonial living-room	99
An old house before and after alterations	102
The altered house from the street	103
The altered house from the water-side	103
Front entrance	104
Kitchen entrance based on the woodshed motive	104
A detail of the dining-room	105
The reception room mantel	105
Detail of the dining-room mantel	110
The living-room fireplace	110
The dining-room buffet	111
The new stairs	111
An old Long Island barn	114
A Connecticut barn boarded vertically	114
The Baldwin stables, North Woburn, Mass.	115
Corn-crib on the Baldwin Estate	115
Outhouse and woodshed, screened	118
The old Taylor stable at Roxbury, Mass.	118
Minot house, Concord, Mass.	119
Caretaker's quarters attached to a modern barn	119
An open woodshed	129
A lattice-screened woodshed	129
An old well and sweep	129
Covered well attached to the house	129
Arbor-sheltered entrance to the Keyes garden, Putney, Vt.	134
Octagonal arbor at "Boxwood," Lyme, Conn.	134
The Keyes garden from the division wall	138
Entrance to the Prince house, Flushing, Long Island, N. Y.	138
Sarkey garden, Essex, Conn.	138
Pentagonal summer-house on the Hollister place, Greenfield, Mass.	138
Two views of the Sarkey gardens	139
Garden path, Old Manse, Deerfield, Mass.	144
Allyn garden, Saybrook, Conn.	144
High-growing elements in the flower garden	145
An old enclosed front yard	150
A new gate in an old fence	150
A gateway in the style of the Greek Revival	151
An old fence with a stone base	151
An old fence at Salem, Mass.	154
Repetition of design in fence and porch rail	155
A pleached entrance	155
A fence combination of lattice and pickets	158
An old walk sheltered by old growth	158
Entrance to the Garretson house, Flushing, Long Island, N. Y.	159
Gateway to the Cowles house, Farmington, Conn.	159







The Joel West house at East Hampton, Conn. An early example, having a Dutch "kick" to the piazza roof, and a half-door at the end of the piazza to keep off the wind

RECLAIMING THE OLD HOUSE



Chapter One **SELECTION**

FOR one who has an atom of poetry in his soul, there is a tremendous fascination in the antique. With some it may be but a passing interest, as when one is brought in contact with some interesting specimen of the handicraft of earlier days. Others become worshipers at the shrine, purposely seeking, and even collecting, from simple pleasure. Probably too, there are many people who would hardly consider a bit of old lace, or relic of an unforgotten war, and yet display a lively interest in an old house. The latter is perhaps nearer to the sympathies of the many, inasmuch as it is closer to the needs of human existence. At all events, for a number of years past, there are many who have taken up old places and made homes of them. For the most part this experiment has destroyed the character of the subject; at times even bordering on the criminal. Few have kept the feeling of the old thing, while the failures have not been from want of inclination or lack of trying. With these last it simply is a question of not understanding the subject—of groping in the dark for something

which is plain enough if one looks in the right direction. Ten to one the first thing that the average person thinks of, upon becoming the owner of an old house, is the addition of a piazza; and ten to one this feature is not a part of the style to which he would tack it. It is simply a clash between two demands and conditions of living; being then entirely at sea, the result is unavoidable. But a piazza or a legitimate substitute can be put on any house, even though such be not a feature of the style. This, however, would not be a restoration, rather more like saying "mugwump" in the language of the Pharaohs—but of this later.

Now let us take up the subject at the beginning, in a matter-of-fact way, and proceed through the natural channels to a definite conclusion: First catch your fish. One knows in a general way from the history just about what he may expect to find in various parts of the country. Naturally one does not look for relics of 1650 in a country that was a howling wilderness at that time; this is a thing to be remembered. We are, unfortunately, slaves to a certain mistaken notion that everything that may be called old dates from The Landing of the Pilgrims and Sixteen Twenty. Of all our helpless pioneers, they have been saddled with most of the impossibles. There is enough of household furniture and utensils purported to have come over in the *Mayflower*, to have sunk several modern navies; while they who have pinned their ancestry to this little band would make it imperative to have adopted all the foundlings in England in bearing out such facts. Having been rationalized in the knowledge of conditions, one may cease to expect impossibilities and accept things as they are. Really they are sufficient in themselves.

Among the best things to consult, after your history, are the government charts, which are drawn on a scale of an inch to the mile, and are quite reliable and complete. These show contours of the land giving elevations, roads and even houses when it is possible. Of course, these charts as yet do not cover the whole of the country, but there is much that is covered and in such cases the chart is valuable. Then there are the newspaper advertisements and the catalogues of several agents who make a specialty of farm property. But whatever section you may



If your land borders on a side lane, tree-flanked and shaded,
you have one feature at least that is worth while



Perhaps the highway once climbed a knoll at your gate and
now skirts it, leaving you the old way and a terrace

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To you understand that it has taken a lifetime for these trees to grow, and that you may enjoy them without the long waiting? This is a development ready-made

select, be sure that it is practical,—that is, does it cover your requirements as to accessibility in its nearness to public conveyance, and in elapsed time to and from your business? Even if it be a summer problem, which is more than likely, it must be understood that week-end trips are tiresome at the best, and one does not care to spend all one's time on the road. Further than this, there is the question of traveling expenses—of vast importance to the most of us.

Then there is the locality itself. Is it healthy? What are its inhabitants? Has it any public nuisance or insect pests? What of supplies and their prices; the local store probably offers some minor articles, or it may be good enough to be absolutely relied on—very likely, however, one must get things from the outside—can such be gotten with ease? Your postal service—what of that? Then there is fuel, an all important problem. What of climatic conditions; of prevailing winds? Do you get any benefit from the latter? The roads are also rather important factors—one should understand what he is getting in this direction. Is it the same old dust heap turned over and over, or what?

Look into the taxes: is the rate high or low? If it is high, is it offset by the valuation? In what light will the town officials receive your coming—fairly, as a law-abiding citizen or unfairly as one who is too fat and hence is to be squeezed. Unfair taxation is expensive to fight—better get a point or two on this line.

There are many townships in which, of the several villages, one is still "alive" and holds the large majority of the population and hence the controlling vote. Should you select one of these lesser villages, be forewarned that you may expect more or less trouble from the larger center, which having little personal interest in any other direction but its own, will put such valuation and tax on your holdings as it may see fit, and it is surprising how these officials will suddenly become almost human and discover unrecorded beauties of nature and charming views—in other folk's dooryards. If you have them for neighbors, you have some base of comparison; their property against yours, and perhaps a chance at redress, if you care to take it up. But with the former condition you are practically at their mercy, and your local official, if you are lucky enough to have even that, is

naturally powerless against such odds. Now this is neither a vision nor a theory; we know whereof we speak.

Suppose then you have located a possibility that is pleasing. The next step is to look it over. Outside of the general outlay of the place, we would naturally turn to the house first—but let us digress in favor of the land for a moment. What is the immediate neighborhood and what its neighbors; are they desirable or otherwise; will they respect your property when you are away? It might be well to know! At all events, get what elbow room you can—you will need it. At the same time consider that the care of several acres, other than woodland, will occasion some expense. Your lot should be above the road level and drain onto it rather than receive drainage from it. Old houses, as a general rule, had their living-rooms facing the street, and unless there be a chance easily to arrange the plan to accommodate a good rearward view, your being below the road, or too near to it, might be a serious objection. Our forefathers had little time to sit about and view the beauties of Nature and it is very likely that their taste leaned but slightly in such a direction. The Colonial farmer was a working man: hardly a gentleman of leisure, and consequently he built, for the most part, on the highway to fit the practical part of his existence. The merchant, and those of more professional calling than the farmer, perhaps retired a bit farther from the highway, but those in New England who built well in from the highway, in the southern manner, are very rare. This nearness to the road is very apt to be a menace, owing to its lack of privacy under most conditions. It is rather a hard problem to handle successfully at times, and should be considered and solved in outline, at least during the first survey.

One thing on which the possibilities of the place largely hinges is the outlook. We who have time to take up with the problem at all will demand this. Now what is the character of your view? Is it unobstructable, i. e., can future developments destroy it? If the view is locally obstructed—that is, on the land itself—one can remedy it,—but the outside obstruction is beyond correction.

The general character of the surface of the plot is a thing to be noted well at the start. On this, too, in a measure, de-

pends the vital question of water supply and drainage. A local elevation or an easy slope is perhaps preferable to level ground, although the latter is reasonably safe from the menace of drainage from outside sources. It is better that your lot should drain into your neighbor's than his into yours. The local hollow is bad in many ways: everything flows into it; it is naturally damp and, being more or less cut off from the winds, is open to the invasion of frosts. The too steep grade, however, is a thing to be avoided on general principles, as there is a tendency to washouts in all your surface contours—gardens, grass plots, drives, walks and the like. The climb involved in such approaches may become a hardship; and if one purposes to remove to such property later in life, the objection is doubled.

Another thing as regards land contours is the general objection to high land in the immediate vicinity, in any other direction than the north. Land sloping toward the south or southeast is, under ordinary conditions, the best that can be had. Of course, locality has much to do with this, as well as the direction of prevailing winds, and as these last play a very important part in the summer problem they should be borne in mind. Although local conditions may vary with different localities, the location and influence of the sun is the same wherever one may go. With this to consider it is natural that the living-room of the house should be so located as to avoid the hot sun of a summer afternoon: hence the outlook is best toward the east or southeast. Now, of course, it is hardly to be expected that one will find a type of house embodying *all* the choicest points of the ideal condition, but the vital things should be insisted upon; one may perhaps jockey a little with the rest.

Water supply and drainage should always be considered together, but in practice they should be kept very much apart. The ordinary water supply of the country is the dug well, and this should be as far from your ultimate drainage as is possible. It must cast a suspicious eye on the barnyard, pigpen and the outhouses, and, if located near, should by all means be well above them in grade. It is hard to determine, without actually tearing everything to pieces, in just what direction the underground strata pitches. Therefore, it is safer to give any source of contamination a wide berth. In cautioning the water supply to

avoid the drainage, we are regulating the latter to its proper place, yet here it might be well to remember that your neighbor has a water supply and to consider this in your general rough solution of the problem. This last very naturally calls one's attention to the possibility of the foreign invasion on one's own water supply, and plenty of elbow room is a great step in the direction of self protection. Right here it might be well, while considering your neighbor, to ascertain what local nuisance he is fathoming. A pigpen in the direction of prevailing winds might be highly objectionable. The owner may say what he chooses as regards this topic, but he cannot alter facts. If you intend to do a little gardening, the presence of good soil and a fairly level plot is important.

Outside of a rather hasty first survey of the land, the house itself naturally engages our immediate attention. We will assume that the exterior is fairly pleasing or suggestive of possibilities; let us then pass to the interior, as this is the key to all our troubles.

In the first examination two things should be borne in mind: the general visible condition, and the possibilities of the general arrangement. The latter, one will naturally keep in mind while determining the former. This first survey will tell you whether your house walls are plumb, or nearly so, and your floors level. By the swing of doors over the floor one may tell something of this. The condition of the doors and windows and the standing finish should be investigated, and, what is of considerable importance, the easy tread and accessibility of the stairs. This last is really vital, inasmuch as the extra space required to make easy stairs may not be forthcoming.

Right here it may be well to introduce a few simple technicalities regarding stairs in general. The treads of a flight of stairs are the steps or horizontal members on which we tread; the risers are the vertical members between the treads. Speaking in figures, we say that the rise is so much and the tread so much; in this way we definitely define the stairs. On a large scale, the height from floor to floor is called the "rise," and the available horizontal space the "run" of the flight. Modern calculation has reduced the problem of easy stairs to the following rule: the product of the rise and tread—in inches—should equal



There is nothing just like a bit of the coast, with its ever-changing tides and salty smell of the sea. Fresh water is one thing and salt most decidedly another



A ready-made apple orchard is no mean consideration. Although it may not mean a self-supporting industry, it surely is worth while for home supply



If the house sets true and straight and the roof has no sag to it, it is well worth the time and trouble of examination, regardless of outside covering



This old fisherman's cottage at Martha's Vineyard suggests clams and crabs and lobsters, to say nothing of the motor-dory and fresh fish

seventy or nearly so. It has been found by experiment that the nearer we keep to the rule the easier the stairs. Like all rules this one is not infallible; within it there is a happy medium, from which in either direction it is dangerous to travel far. The happy medium lies in a tread of ten inches and a rise of seven—that is, for the front stairs of a dwelling. If we increase the rise we decrease the tread, and vice versa. It is hardly probable that we will find in an old house, stairs as easy as seven by ten—they are more apt to be steeper. For the front stairs it is not best that they be steeper than eight and one-half by eight and one-half. The fact that they may be much flatter than seven by ten is so improbable that one need hardly consider it.

Now, supposing the stairs in question to be too steep: in their correction we must, in reducing the rise, increase the total number of risers, and consequently the total number of treads. In all probability the depth of the treads will be increased to come somewhere near the seven by ten standard, so we can see at once that the total run of the tread will be a considerable gain on the original run. Vital question: have you the space for the extra run?

When there is a chance for a new and independent flight of stairs, which will be the most used medium of inter-story communication, the question of the steep original is not so vital.

Then, too, there is the condition of the plastering. If one taps it, he can determine whether or no it has broken away from the clinch. Such as may be loose will, of course, have to be replaced. And in the case of a large area, and old-fashioned laths, it is best to tear out and relath, for it is a considerable job to free the intervals in old lathing from plaster. Old plastering was generally better than our own, being made, for the greater part, from shell lime. Their lathing in most cases was inferior, as it did not give a uniform chance for a clinch of the plastering.

Look out for the sagging or saddle-back roof—it is hard to rectify. In its settlement it has exerted a tremendous pressure against the outer walls of the house and forced them outward. If the house walls had held, there would have been no settlement of the roof. This problem is so difficult that it requires practically the rebuilding of the entire structure. Not only have the walls spread at the plate or junction with the roof,

but they have probably pulled away from the nearer floor as well.

Next to the true level and plumb condition of the structure, is the *real* condition of the main timbers. The sill first of all: It stands to reason that if this is badly decayed other members which have depended upon it for support have settled; the first floor timbers are affected; the settling studs and other uprights have either dragged other members with them or allowed them to follow of their own weight. The same general result may be expected if the ends of the uprights themselves become deteriorated. Now it may be possible that the evidences of decay are not visible, in which case a knife or some long sharp instrument should be used from both inside and out, where practical. If there is not too much settlement, lesser timbers, or to a limited extent larger timbers, may be replaced, and with less expense in the case of floor timbers or girders, which are more or less independent of the outer walls. Often, too, a slight local settlement may be rectified, although the problem is rather hazardous; involving besides the first expense, others which may arise from it, such as broken plastering, sagging doors, windows and like trouble.

In the two extremes of the house—the attic and the cellar—one may look for trouble. In the former for roof conditions, such as bad roof timbers and boarding, and a leaky roof. Naturally the latter condition has done more or less damage to the house interior; the wetting of woodwork has induced decay, or that of plastering, a general weakening of the same. It may be that while the present condition of the roof covering is well enough, some previous state may have effected the damage above stated, so that it is well to look for evidence in any case. As to the roof boards—are they in condition to hold new shingles? This naturally suggests a point which is vital in considering the reconstruction problem of the old house. While an old bit of construction may hold together if undisturbed, having become from long association of parts and equal conditions of deterioration, as one mass, it is often a question whether or not it will bear any attempt at rebuilding, without great weakening, or even destruction.

As to the cellar:—apart from offering an excellent chance

to ascertain the condition of the floor timbers, it is frequently the source of dampness. The question in such case is one of origin. Is the cellar so poorly ventilated as to effect this? Does it find its way through the cellar walls or is it local? This last condition is often serious enough to make the abandonment of the whole thing advisable. It is not best to have a well in the cellar, but if your soil will permit of drainage it can be filled up. A spring, however, is a different thing. Better waste no further time with such a problem, unless the nuisance be small and the slope of the land sufficient to carry a drain under the house wall: then clap a concrete bottom on the cellar. Unless the house appeals to you very strongly, it will hardly warrant this expense.

Not to be overlooked are the chimneys. They may hide untold evils—evils which may mean the total destruction of the house. This consideration is by far the more uncertain in a house that has stood idle, and wherein the masonry may have had a chance for great deterioration since it was last used. The entire rebuilding of a chimney under the usual conditions attending old work makes it an expensive job, and yet, when the flues are of considerable size, as is common in the majority of old houses, one may get over the difficulty by introducing a circular metal flue and filling in about it with concrete. Of course, it is understood that alterations are of two kinds—vital and merely convenient. The chimney is decidedly of the former: one can tell much of its condition in the attic and cellar, where the masonry is exposed. A pointed iron or often a good umbrella stick, will determine whether the brickwork is in a soft condition or not. When soft bricks have been used, they are apt to have suffered much from the invasion of water, and will sometimes crumble at the touch.

Having obtained a general idea of the interior, we may pass on to the exterior. As a general rule old houses were set too low: dampness and many of the evils of decayed sills have originated from this source. If your problem is one of these, will the structure stand raising a foot or more? Sills must be reasonably sound to do this without considerable expense. Perhaps a simple area and larger cellar windows may solve the problem.

Right here it might be well to state that much of the old

seasoned look may have to be sacrificed in making the necessary repairs. Is it the weather-beaten effect, or the general design that pleases you? Weathering may not necessarily have led to decay. Often such effects may be preserved. Then, too, it may involve more expense to repair a comparatively complete and satisfactory design, than to convert a sound example not so pleasing.

Nearby trees are often valuable to the general scheme and serve more than any other thing to relieve the sameness of an otherwise barren composition. Their shade, too, excels all artificial contrivances. And yet they should not be too closely set to the house as they may induce dampness, and if overhanging the roof, the decay of roof covering and gutters. So do not deceive yourself by such a leafy delusion: you may be obliged to sacrifice a pet ideal to gain the healthful conditions of light and air.

Should your roof shingles be old or moss covered, make it a point to inspect the attic after a heavy rain. And remember, too, that a new roof and wall covering does not mean that what it hides is of necessity sound, but if the structure be plumb and true, the frame cannot be so very far gone.

If you have discovered that your interior is insufficiently lighted, study your exterior to discover whether you can correct this without sacrifice to the design. The bay and the mullioned window are not features of the simple Colonial design, although the square bay was frequently used in shop fronts, and in England the three-sided bay. Sometimes the bay may perhaps be used, but it almost requires the overhanging second story—this depends on the local style and the amount of blank wall surrounding it. Colonial work was generally sparing as to glass, and windows were seldom crowded.

The foregoing seems at first glance to take much into consideration at the very beginning, but this is best if it can be done. One should have a general idea of probable alterations, both of house and grounds, even at this stage. It is largely a question whether certain desired things are possible or not. The question of outbuildings should be given passing consideration as well as the house. Their condition and practicability, if existing, especially in reference to their sanitary condition and location,



Interesting from without, but what of the internal conditions? If it can be saved, it is worth while, as its setting is unique and hard to duplicate.



Here is a good type of the late Colonial influence. It has been tampered with somewhat, but has also been kept in fairly good repair.



If you can draw back from the highway and at the same time add to your view, without too much effort, it is very much worth while



Along the great river highways one finds many an early settlement, nestled close to the water's edge. Its past industry has vanished and for this reason let us investigate

means much. If they are yet to be built, their possible location should be determined roughly.

And now as to the general business method of procedure. First provide yourself with a pointed piece of iron about a foot long for the purpose of sounding beams, masonry, etc., also a lantern or pocket lamp. Assuming that your first survey is satisfactory, you should get a refusal of the property for a couple of weeks at least, in order to have the title looked into. For this purpose get a lawyer, unless of course, you are an expert. In any event, the local lawyer, who probably has such things at his finger ends, is perhaps safer. If the title be not clear, and cannot be rectified without time and expense, better drop it; future legal tangles are undesirable and altogether too near home.

When the question of title is settled, make another inspection and bring a competent carpenter along. By this time you probably have a rough sketch plan of your first alteration. Do not let him run away with himself and with the idea that he is to find all the fault he can. Let him understand that if there is too much to be done you will not purchase. In any event do not commit yourself to the limit of what you will spend. Give him to understand that he is to present his figures and opinions that you may think them over. As to the price of the property, it should be borne in mind that a home is worth more to you than an investment; also that the property should have something to back it up. Should you ever wish to put it on the market, it should be practical.

In getting a refusal, you should have a binder. This is a simple document for the owner or agent to sign, in which he acknowledges the payment of a small sum (perhaps from five to twenty dollars, as the case may be), for which consideration he agrees to give a refusal of the property in question for a specified time. Then should you decide to take the property at the end of this time the deposit shall be considered as a part of the purchase price. Do not, however, commit yourself, in writing or otherwise, to the price asked, as you may find, before you are through with your investigations, that it is too high.

While your lawyer is drawing up the deed, try to ascertain from the abutting property owners whether the existing bounds

are right; if so, they should be willing to sign a plan and it would be well to get a surveyor to make a simple outline plot. Have the abutters sign it to the effect that the bounds, as shown on the plan, where abutting their property, are correct. Use a dark ink for signatures and sign lastly yourself, in order to show your good faith. Take one or two blueprints, and file the original tracing in the proper place with the record of deed. Having completed this thoroughly, you have the best start toward a home.

And now you are ready to take up the more serious consideration of practical restoration as a property holder.



Chapter Two **PLANNING**

THE so-called "Colonial" plan is in the earliest examples a tradition of the mother country. Later it became more independent, yet still holding fast to the skirts of the parent style; finally letting go altogether. This deviation became possible, in work of the less pretentious order, through the passing of the English trained craftsman, whose descendants had not before them continually those instructive examples of old English work, for it must be known that the architect of the mass of our old houses was also the carpenter, and that such conditions were just what has given the dwelling its individual and sympathetic touch.

We do not aim in this work to give a history of the style, interesting as it would undoubtedly prove. We may delve lightly beneath the surface, but only to such depths as our needs require. It must be borne in mind however, that the earliest English cottages were of an extremely simple and primitive character, about two-thirds of which were used to house the cattle. Being thus largely houses for stock, they had the lower

floor level with, or just below, the ground. Important in governing the plan were the oxen. A yoke standing in the tie-up occupy about eight feet in breadth, and as each ox always occupied the same position in the team, and as the ordinary English team of those days consisted of two yoke, the oxen were for obvious reasons confined to a section by themselves. This section was called a bay, and was about sixteen feet wide. In the frame this bay was naturally emphasized by an upright post in each corner and in the earliest examples this post was made from a curved tree trunk and extended on into the roof as a rafter, so as to form a crude Gothic arch. These arches, which leaned slightly inward, were called crucks, and were the big sticks in the upright construction, occurring as we have already stated at the junction of upright partitions, just as the sill, girt and plate performed a similar office for the horizontal partitions or floors.

While the earliest houses consisted of only one room or bay, they soon came to have several, and, as in all buildings, the groping for more room resulted in the inevitable addition; in this case it was the outshot, the ancestor of our own lean-to or attached shed.

After a time the house evolved itself into our present-day lines: vertical framing and walls and an independently framed roof. We cannot give any definite plan as a type, as various localities and craftsmen translated their inspirations in different ways and consequently got different results. And at this point it is well for us to emphasize this fact:—English craftsmen, from various parts of the mother country, brought with them to these shores the usages and traditions of their individual localities which were expanded and developed by their successors, and this has naturally produced a series of local types, often similar, yet bearing the stamp of individuality and localism—do not forget this, *localism*.

It may perhaps have occurred to the reader that the construction of the early plan had much to do with the arrangement of rooms and their sizes, and such is the case. Early interior partitions were thin and comparatively light, being of matched upright boards called wainscot. When first used they simply accommodated themselves to the spacing of the big up-



The Peter Tufts House, Medford, Mass. Built between 1677 and 1680. Wrongly called "Cradock" House. An early type of gambrel roof. Composite of "C" and plans



House at Windsor, Vt. Designed and built by Asher Benjamin during the close of the eighteenth century. The chimney tops are new. "I" plan



One of the Ellsworth houses at Windsor, Vt. (about 1750). This preserves the tradition of the Pre-Georgian overhang on each story. Modified "I" plan



An old "B" plan house showing a "stack of chimneys." In the old times, "chimney" meant flue, and in the topping out each flue was apt to show as a unit

rights or posts, which were essential units in the general construction. Later, when the plan had developed somewhat and every house boasted a chimney, the design revolved about that and the construction accommodated itself more or less to it.

The very earliest form of the fireplace consisted of a raised hearth in the center of the building, and on this the fire was built and the smoke escaped as best it could through a hole in the roof above. Later it was carried to the outer wall, and it is these two arrangements that govern our commonest plan; with the English chimney tax the former was naturally the most popular, as it was possible to get more out of one chimney. Thus with the chimney as an important fixture, we can readily see that it governed and dominated the plan, a fact of which we should not lose sight.

It must be understood at the start that there are comparatively few houses that remain in the condition of their original building—more particularly in the few surviving early, and the later small, structures. The simple needs of a beginning were often succeeded by a demand for expansion, and yet where the purse-strings were short, it is remarkable how little room even our grandparents could get along with, although encumbered with a large and growing family. The traditions of living in 1620 followed far beyond 1800. As a general thing these additions, or at least the later ones, were out of harmony, and simply impossible from the standpoint of good planning; the tradition of gaining space did not allow for eccentricity; building was a tried-out formula. We hope to be able, in the course of this book, to show in a general way the ear-marks of various periods, so that the reader may determine for himself the various stages of construction.

The first floor plan is the dominant plan and the second story it made to accommodate itself to it. Generally it was a duplicate of the first. That this was not always successful, at least from our standpoint, we shall see later. We shall therefore consider our several types from a first-floor standpoint. In Fig. 1 we have shown several common types of plan, to which it may be well to refer. But before proceeding to this it might be well to state that the plan was an expression of a mode of life, and that such has changed constantly with the ages. Be-

cause our ancestors chose to live, eat and even sleep in one room, does not argue that they were not as worthy, or that they suffered hardships in comparison with other people of their time. If we take some of the greatest names of our early his-

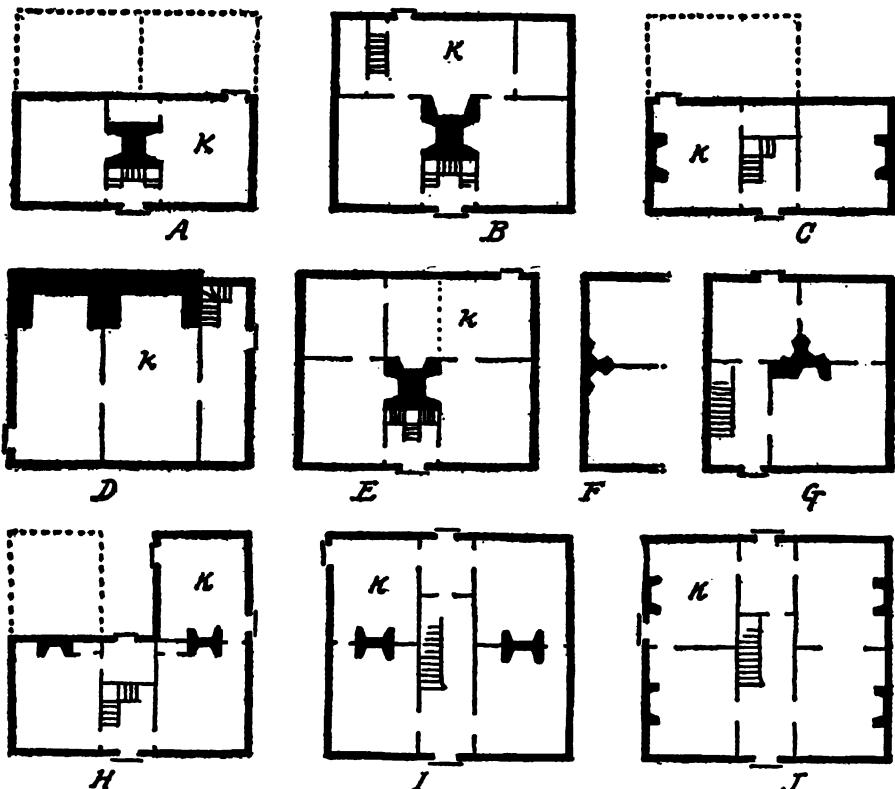


Fig. 1—Common types of Colonial first floor plans, showing the general arrangement without regard to scale. In "I" and "J" the length of the rooms is generally with the front. The dotted lines suggest common variations of ell's, etc., found in some examples.

tory and examine the inventory of their estates, we will often find a bed set up in the kitchen; naturally this is more common in the north. It is, then, this difference in the times, as expressed in the house plan, that we must recognize, and our problem is to adapt this heritage to our own needs with the best advantage.

In the plans already referred to we have designated the kitchen by K; next to the chimney it is the important unit. Diagrams A, B, C and D are the earliest forms. Of these we have noted A in the Eastern Massachusetts, B in the Connecticut plantation, C in New York State and D in Rhode Island. They will probably be found elsewhere, they or their variations; D, however, we believe to be a localism about Providence, R. I. C is also common in the South. These plans were of the period prior to about 1700, and with the exception of the last, were in high favor at a much later date. They are boiled-down experiences, hard to better. D, from its vast masonry end, would have offset the saving effected by the more economic handling of wood, and yet this plan was probably a popular one in the old country, being one type of the two-bay and outshot plan. B, which was treated sometimes as one story and an attic, with kitchen in the lean-to (or outshot); sometimes as two stories over the two front rooms and a story and a half over the kitchen; and finally, as a simple two-story structure, was perhaps most popular of early northern types and in its last form continued a favorite long after 1700. It is readily seen that A is its ancestor, and that repeated enforced additions to the former, resulted in the latter as an original.

Type E is similar to B, but it was frequently larger and in such cases the chimney was very likely farther to the rear, lessening the size of the kitchen and dividing an otherwise through hallway and separating front and back stairs. It is not difficult to trace the evolution of C to the later H, nor through F to J. I is a good commonsense plan, economical in chimneys. Sometimes the kitchen eliminated the rear portion of the hall, making a larger room. This arrangement was a somewhat earlier version of the type and seems to have evolved itself from H. J was the most palatial layout and was particularly well adapted to the wooden structure with brick ends. When this plan is used with the hip roof it does not look well; a chimney seldom looks well when it leaves the roof at its lowest point. J is but the doubling up of C, and we know examples which have become type J in a series of evolutions from the earlier form. With the Southern mansion, it is usually a plan after I or J, with modifications or elaborations—at all events a bal-

anced plan with the door in the center and the through hall. In the more pretentious schemes the central motive is flanked by semi-detached wings, and the piazza is generally the full height of the house, suggestive of Classic design, if not absolutely so detailed. About 1800 arrived the Classic, or, more properly, the Greek Revival. Its influence on building was marked, even in the case of the type of Georgian which followed it and became its contemporary, and whose plan is shown in G, but it was not a happy source of inspiration for domestic architecture and it left little that was not ugly and inconsistent. Generally its plan was type J or I, but sometimes it veered towards G. This latter plan was the last of the marked Georgian influence, and the kitchen was usually in an ell in the rear, not shown in our sketch. It was extremely popular for the simpler dwellings which followed it and which adopted modified details from the Greek Revival in an effort towards economy. It might even be said to be a merging of the two styles; it is still used in sections where the influence of the architect has not given us a mushroom settlement with a 1, 2, 3, 4 and repeat, as a basis of variety.

In the following consideration of the old house we shall speak of it largely as regards a building of wood. This, however, will not exclude brick and stone; our principles govern them all. Wood was the first material, and its constructional possibilities and limitations gave birth to design. Its walls were largely of brick and frequently stone was an accessory. Our first care is to see what the old-time craftsman did; our second, to reason out what he would naturally have done with some of our modern problems, considering his traditions and his limitations.

We have already spoken of the sixteen-foot bay and the reason for this particular dimension; when the reason for this had passed, as far as the house was concerned, its tradition remained but the dimensions became flexible, and in our common houses the size of the room was generally reduced. With the installation of the central chimney, a bay or division of a different size was required. Judging by such old examples as we have noted, we may establish a certain proportion between the room and the chimney bays. Approximately the chimney bay was from two-thirds to three-quarters the size of the room bay, the latter



"Grumblethorp," Germantown, Pa. Showing a slight modification of central door arrangement. Variation of the "F" plan



"Stenton," Germantown, Pa. Built by James Logan, Secretary to Wm. Penn, in 1727. "I" plan

THE NELSON HOUSE, YORKTOWN, VA.



The Nelson House, Yorktown, Va. A relic of past Southern grandeur. Note the enclosed fore-yard and also the servants' quarters. "I" plan



A simple example of the well-known Southern type, with the two-storied piazza. One could live in a house like this. "I" plan

proportion generally applying to the older houses. When the chimney was no longer a central feature and the stairs and hallway reigned in its stead, the proportion does not seem to have changed, because the stairs, which had first been made to accommodate themselves to the chimney size, became established, and once again a regulation of width was fixed. When the hall bisected the house, the stairs were built with a straight run, and in some of the less elaborate examples the hall bay was about one-half the room bay. All this but leads to one thing: a means of establishing a unit of design—the greatest common divider of the parts involved. Therefore, if the hall be eight feet and the flanking rooms twelve, then our unit is four. One must not be misled by the lesser partitions which do not connect posts; it is the divisions by the heavy cross-beams which we are to consider as our basis, when they exist; in later styles, where they *should* exist. The advantage of the unit will become apparent when we are planning for modern improvements, as it is one the designer would most naturally use, and it gives the layman a mathematical substitute for the constructive limitations of the old-time carpenter. In academic planning, the square is the unit on which the composition is constructed; in Classic design, the diameter of the base of the column, with its subdivisions, was the scale of all dimensions. Of course the old-time craftsman did not work with mathematical precision, nor did he reason with himself regarding units and squares, but custom and constructive limitations served as a substitute; what he got was generally good.

Having established the unit for one dimension, we must determine that of the other so that we can work in both directions. (See Fig. 3 and 4). Naturally this may not work out absolutely to the inch, but we must make it fit as well as we can. If, of our two dimensions, one be about two-thirds of the other, then our unit—the greatest common divider—is one-half the smaller and one-third the larger. Supposing that the one room be ten and the other fourteen feet, our unit would be four feet ten inches, a compromise between a division into halves of the one and thirds of the other. It is well that the unit be of sufficient size to accommodate a window and about its own width besides. Our four feet ten does this nicely and with room to

spare; four feet alone would answer. It is somewhere around these two figures that we may roughly calculate our unit to be. It is best that our unit be small; if by chance it be large, it should be halved, and in such case the other unit should be halved as well.

If one has a house that has been mutilated or so added to as to disguise it thoroughly, the problem is of course to eliminate the objectionable side, whether it be in its looks or its utility. As old design is a localism, there should exist somewhere not far off, some duplicate which might serve to show what the original was. However, it is not always a question of restoration, but of replanning, yet the original method is good to have. Generally the old craftsman built house after house, practically the same, excepting where now and then the usual formula did not exactly fill the bill. In making his moldings he used a plane or a combination of planes, and the careful student can often trace the same details through a wide range. Sometimes these planes were home-made, differing from others. Being good tools, they were in any event handed down to do the work of the following generation, which, while producing different forms, used the same details. Now and then, too, details varied, but one should not be thus led astray in passing on a family likeness between two buildings.

Our forefathers made their additions in the form of the lean-to or the ell, with a frankly new roof problem. Generally this latter was one story high, and was frequently added to in turn. Often this last made an effective and picturesque composition; often, too, it did not. With the country problem it has its advantages; the one level saves stairs. The proper way to add to an old house is after the manner of its builders, and these methods, if we are allowed to reiterate, we must study. The modern carpenter, if left to himself, will work after his own fashion, and this is what we particularly wish to avoid. It is, however, not his methods, but his results that are objectionable. If one would be thorough, the general history and the public records often afford information which is of value. To know what intercourse our immediate locality had with those adjoining it, gives us the probable range of our localism and the part of the mother country from which the early craftsman

came, gives us something to fall back on, in cases of the earlier work.

In Fig. 2 we show a development of the B plan; the oldest son has married and brought home his wife—hence the ell. This is an actual plan, taken from the original. To illustrate the

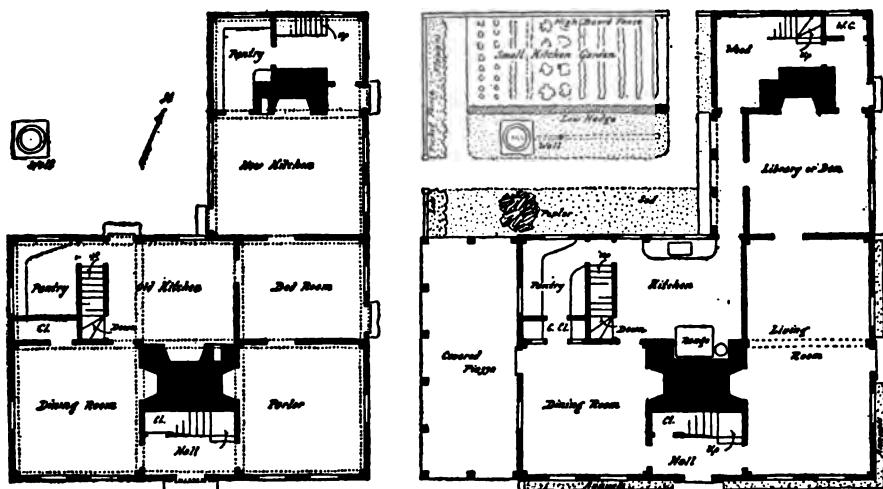


Fig. 2.—An example of a later development of type "B" plan in which the ell has been added upon the marriage of the eldest son. Also its possible alteration and elaboration. The dotted lines on the old plan show the arrangement of the sills, girts, plates and cross-ties of each floor plan with their relation to the posts or uprights into which they were framed and pinned

method of framing, the posts and their horizontal components are shown, and their government of the plan is at once seen. We have also shown a possible modern adaptation of the plan, and it might be well to use this layout in explaining our method of working out the problem.

The older part of the house is fairly modern in its layout. In the pantry system we would save steps and gain shelf room. By turning the bedroom and parlor into one room, we offer what we fancy to be the accepted modern notion as to the living-room. In this way we are meeting, also, the demands of the old times; the old-time kitchen was generally the largest room in the house, and in Western Connecticut it occupies the space of our new living-room. In the son's ell we connect the wood-

bins (which should be ventilated) by an open arcade in space stolen from the kitchen. The den or library occupies the remainder. Although the piazza was never a part of this plan in its earliest stages, and but a minor consideration in its later forms, we have nevertheless suggested it here as an important detail; it should never be placed across the front unless it is well proved that it was so used. The front elevation is generally the best effort of the design and should not needlessly be disturbed; this holds good in all Colonial work. With the ends, however, it is different; they are the places for extensions. The early plan, as we have already stated, consisted of several bays, side by side; in other words a barn of greater or less length as the case might be. One could add bays at the ends and commit no crime; it was like a sectional bookcase, and the extension was always with the direction of the roof ridge. Now if our piazza had been less important and in the rear, we could make it smaller, but it must have utility. Having a different purpose than the adjoining room, we consider that we have the right to alteration. Alteration gives variety, and thus we have utilized our hall space for our piazza. As the old-time carpenter would have framed in his piazza to his house, we may very properly consider it a part of the structure. The perspective view from the east includes the ell, and this is our excuse for omitting the piazza here.

Our solution of the problem is not the only one; it probably would not meet all requirements. Perhaps one might wish to keep the ell as it was, make the dining-room include the parlor and enough of the bedroom to center the fireplace, using the balance of the bedroom for china, service and a built-in buffet. The living-room could occupy the entire space to the west of the chimney, and the balance of the old kitchen be made into a new staircase hall, arranged to tap each room on the second story, including a bath in the ell.

On general principles it is not advisable to remove the entire outer wall of a room in order to enlarge. A room should not be partly in the old structure and partly in the new; the opening should be more of an arch or a square opening, interrupted by posts, while the new room is complete in itself and counts as such, both inside and out. Further than this, there is the diffi-

culty attending the holding up of the wall above, owing to the low stud of the structure. Normally one could put an iron beam under the girt and have head-room enough, but the old house had its ceiling only about seven feet high, and the girt dropped some three or four inches below that. The girt is a considerable stick, but if unsupported it would be liable to sag, and the more so did it receive the weight of the floor as well as the wall. Of course a truss could be built in the wall above, but it would mean expense—the whole thing is contrary to the principles of good construction.

We may see from Fig. 1 that the first extension was made at the rear and under a shed or continuation of the old roof. This caused little disturbance in the general lines and was economical. The next method was in the form of an ell, as in H or in Fig. 2, in which the new structure was a one-story affair, commonly set against the two stories of the main house; the roof was thus independent and at right angles to the main roof. Simplicity was the dominant note, and little quaint features seldom complicated the general ensemble.

We have spoken of a unit and the method of fixing it. In Figs. 3 and 4 we show its application to practical conditions. We have also stated that the divisions may not be found to come exactly. This matters little, as it gives a general idea and that is all that is necessary. They form a convenient basis for the preliminary plan, even though the dimensions may have to

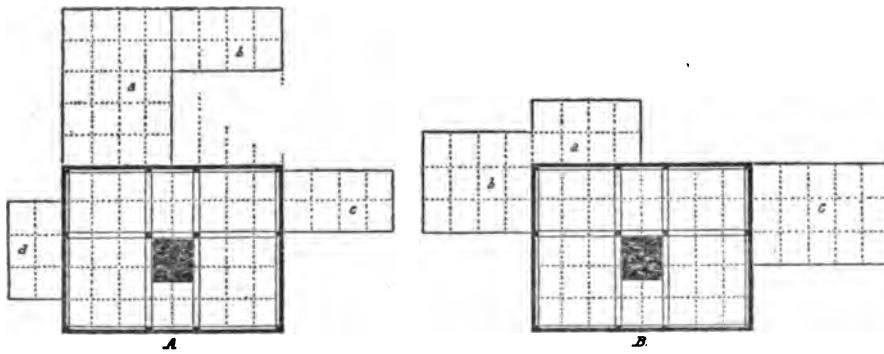


Fig. 3—The "B" plan as divided by the big beams and showing the sub-divisions into units; also indicating the most plausible ways of addition, which covers as well the plan's later form "E," which has the same framing

be changed slightly to fit our interior sizes and arrangements. The best method of procedure is to lay out your original plan to a scale of one-eighth of an inch to the foot and black in the partitions so that they can readily be seen through tracing paper. Use an imperial drawing board and cheap Bristol board for the original, and some thin pencil paper for the rough sketches; finished drawings can be made on tracing cloth, the grease first having been removed from the dull side by rubbing with chalk or ironing starch, after it has been stretched down. Get a cheap T-square and a forty-five degree triangle, also a cheap drawing pen. Place your old plan in the center of the sheet so that you may have plenty of room around it. Lay out your front fences if they be close at hand. After inking in your plan, lay out your field of units as suggested in Fig. 3, extending the pattern over the entire field of possible extensions. Ink this in with strong red (use waterproof ink—black and carmine). Over this one can make freehand studies on cheap tracing paper and *think* out the general scheme of alterations.

Now we think that the reader has grasped the fact that the front is not to be added to unless there be authority for it; a precedent of an open or closed porch, or, what is least likely, a piazza. We say "least likely" because, although we find some which are excellent in themselves, they are generally later than the original house and are more likely to destroy some important feature for the older structure than to improve it. Then too, we are getting to care more for privacy, on account of which a house located near the street demands that we retire from the front of it. We will therefore consider the rear and sides of our dwelling, the walls to which we may more properly attach additions.

First the B plan: In A, Fig. 3, we show the ell (*a*) after the manner of Fig. 2. The portion *b* we will suppose to be a less important addition—perhaps a shed. The roof of *a* is at right angles to the main roof and may or may not intersect it, according to the height of both. The element *b* is, in turn, at right-angles with *a*. In *c* we suggest a wood-shed piazza of two arches in length; in *d* a possible sun parlor or plant room. The roof of *c* would naturally be of the pitched type; that on *d*, hipped.

In B—*a* we show the shed-roof or lean-to addition. Its roof may be a continuation of the house roof or simply a buttress against the house wall. A more important addition is *b*, in which the rear pitch of the roof is a continuation of the roof of *a*. Still more important is *c*, and it can be entered from the adjacent front room. The piazza problem for B is most naturally solved by a location in the angle between the main house and the lateral extension. In such case it is best included under the extension of the roof of the wing.

In the consideration of the I and J plans we have the problem of the through hall, which is nearer to our modern methods of building. It is, at the same time, more pretentious than that of the B plan. We may assume that we have a two-story house,

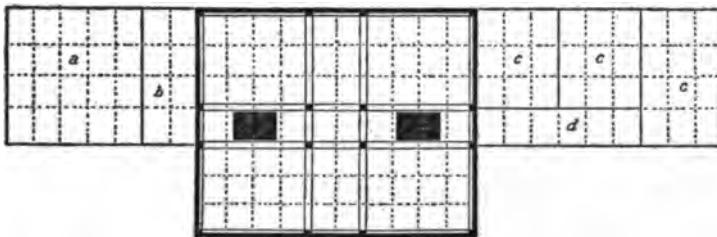


Fig. 4—The "I" plan as divided by the big beams, showing the sub-divisions into units. Also indicating the most plausible way of addition, which applies as well to the "J" plan, having a similar frame



Fig. 5—Showing the narrow hallway with the advantage of the uncentered over the centered door

as such is generally the case, and may use the rear addition as already explained in the problem of the B plan. But if we desire further extension we are in danger of cutting off light from some of our rear rooms by this means. We can of course attach to the center of the rear, lapping over one unit on each flanking room. The most natural treatment, however, is that of the flanking wing, and generally, though not imperatively, these wings should balance each other. In *a*, Fig. 4, we have a room or a collection of rooms; *b* is an open and through passage, which in modern work is designated by the unconventional term of "dog-trot." In the opposite extension we have attempted a sub-division into rooms (*c-c-c*) which are approached through the passage *d* (perhaps arcaded).

We have already spoken of the second story as being less adapted to modern ideas than the first story. This, while true of the earlier houses, was hardly noticeable in the later examples. With the exception of the bath, the L and J plans fill the bill fairly well, but with the B plan one is obliged to traverse important rooms to reach others. In Fig. 6 we show one solution of the problem; the back stairs reach every room, while the deficiency in closet room has been cared for to a limited degree.

We must not overlook the plan D of Fig. 1; it is apart from its fellows, and yet if we reverse the present layout and inject a through hall we have the J plan. In this case however, the

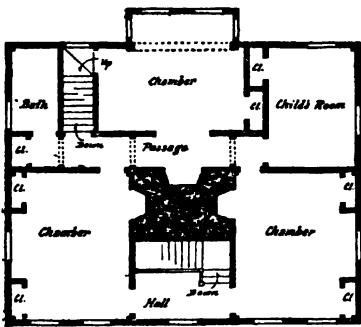


Fig. 6—Showing a possible alteration of the second story of plan "B." Solid black indicates old work

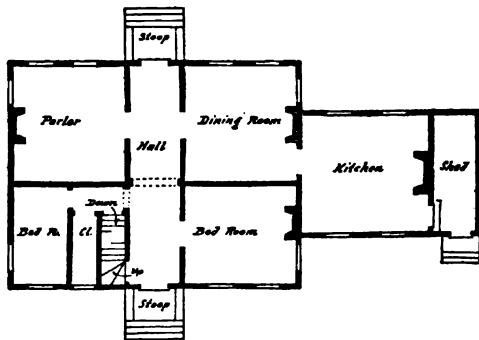


Fig. 7.—Plan of old Dutch house at Corona, L. I., showing the slight variation of this type of "J" plan from the English version

outshot cuts off the light from the two rear rooms and should either be eliminated or made a part of the latter.

Now, while we wish the reader to consider these foregoing suggestions, we expect him to turn also to the old work for inspiration, for while there is much that is questionable, there is an abundance of good. Our problem is to select simple solutions and renderings that do not have the appearance of over patchiness; as to the details—they are for us to regulate.

It might be well to add here a few rules and suggestions which bear upon general planning. Additions are ordinarily best considered as attached to the original structure by their smallest dimension, which is less apt to destroy the lighting area of existing rooms. These should be few rather than many—simple

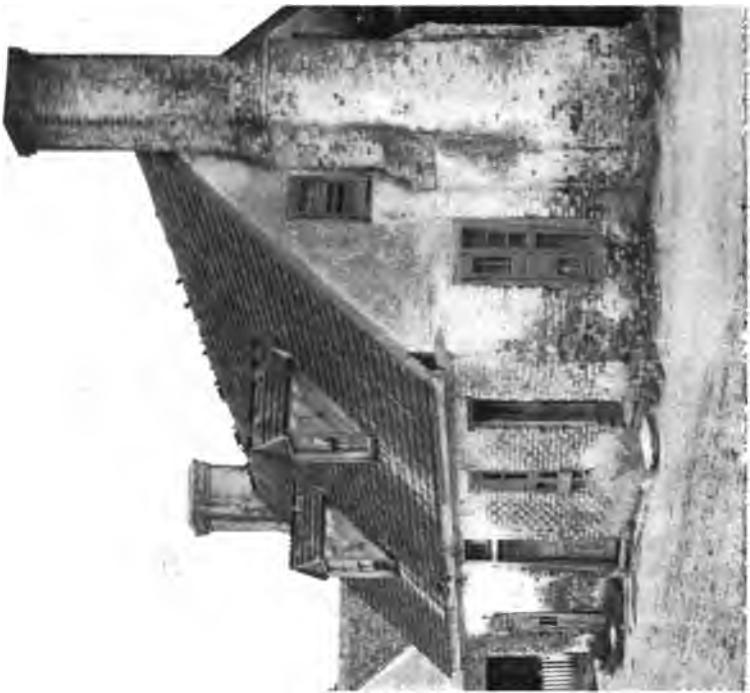


An old Connecticut house of the gambrel type which retains the tradition of the overhang of the Pre Georgian style. (C. L.)



Old Dutch house on Long Island, N. Y. This has the usual overhang and "kick," with typical "stoepe" on either side. Modified "J" plan

The late N. E. Georgian as influenced by the Greek
Old house at Yorktown, Va. An excellent example, which adheres closely
to the English form. ("C" plan)



forms carefully subdivided into units rather than units jumbled into an irregular whole. Roofs, where connected directly with the main roof, should be made a part of it if conditions permit. Ordinarily the addition should be lower than the main house, the more so if the supplementary structure be small. If the main house be two stories, the wings may be one and one-half stories, or if the main house be high-studded enough, the wing may effect its object by using lower stories. Do not forget that the main house should remain the dominant note of the complete composition, and that its roof should rise well above the surrounding skyline. There are, of course, cases where the old structure is so small that, to fulfill the conditions, it must be considered as a wing. Wings like *c* in Fig. 3, B and those in Fig. 4, should have one wall in line with that of the house, and under no condition should they extend fully to the line of the front wall, but should be kept back at least the projection of the cornice. Small bays and like projections may center, but generally the larger addition looks better if treated as suggested.

The axis of a body is its center line and in the layout of a room or the entire house, the design is commonly made to balance on this center. Sometimes, for structural reasons, our important detail (like the fireplace) cannot center, and frequently this is dominant enough to draw to itself a new axis, which is followed by the lesser details. In any event, it is well to consider the possibilities of an axis of design in connection with the proposed addition, and this axis is controlled by details rather than the general balance of the rooms themselves. (Fig. 8).

The windows of the house front are usually spaced, with the front doorway, to make a pleasing exterior effect, and hence do not center in the flanking rooms. The balance of details as above suggested, does not give an academic plan. It has a certain freedom, and lesser details may be entirely haphazard. In our proposed layout it is important that we consider well the passage through one room to another. While with bed-chambers this is out of the question, the first floor conditions allow it. It must, however, be borne in mind that the uses or privacy of a room should not be disturbed in this process, and

that it is not advisable to traverse an important room to reach a less important one, unless the purpose of the latter be more private or individual than the former.

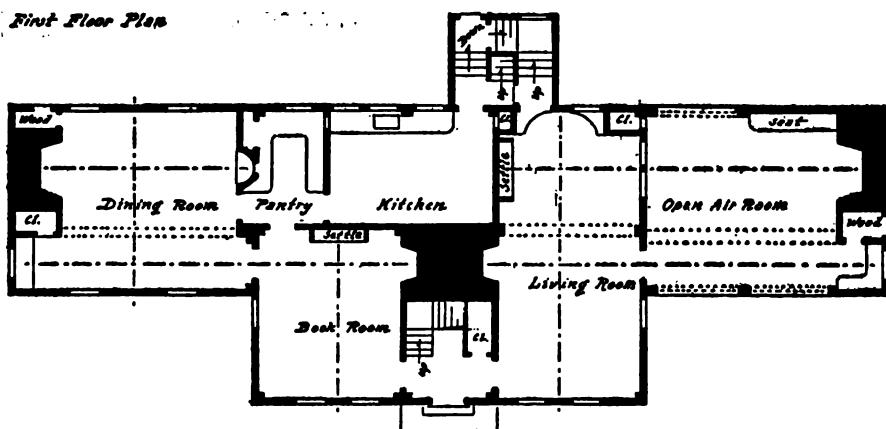
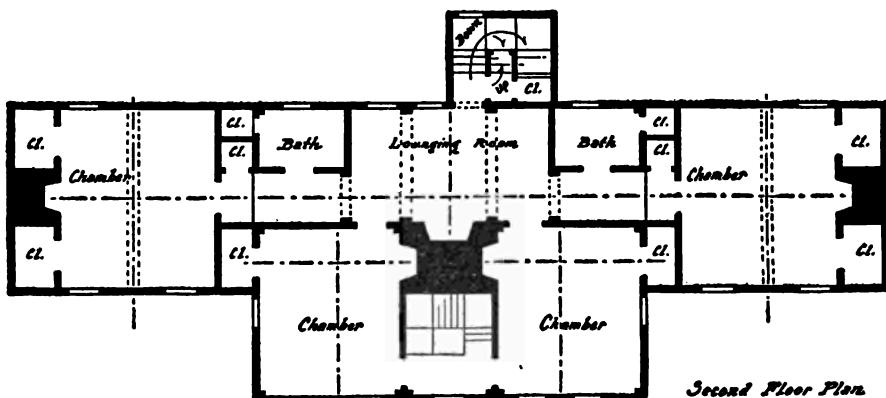
First Floor Plan*Second Floor Plan*

Fig. 8—Showing the enlargement and alteration of a "B" plan in which the axis of design is considered in the placing of details. Heavy pieces of furniture may sometimes be made to take the place of set architectural details. This arrangement may also be adapted to a "J" plan

The piazza, unless a straight column is used, is best set back from the corner of the building so that its cornice may butt against the house wall. If other than plain corner boards be used on the main structure, its overlapping of such is a grave

question. In the case of a full-length pilaster with cap and base, it should not interfere with this at all.

Carefully plan the swing of your doors; be sure they will swing to the wall. If you have doors in the end of a narrow passage or hallway, remember that the uncentered door will allow of easier passage (when one is obliged to open and close the door) than the centered one (see Fig. 5). Do not destroy the utility of all your corners; they are valuable. If you desire the sleeping-porch, keep it within the style. The two-story piazza may solve it or it may come within the house wall. In any event, in its latter location, it should be so arranged that one cannot see daylight through it, and if possible it should be kept at the rear of the house.

The foregoing covers in a general way, the heading under which it is placed, but we will probably gain other information as to details in the following chapters.



Chapter Three **EXTERIOR DETAILS**

THE external clothing of an old house may hide a very old skeleton; it is risky to rely entirely on appearances. The older houses were generally complete under one roof, the ell being frankly an addition enforced by the demand for more space. Later houses, however, often make the ell a part of the original planning, as is our modern custom. It is next to impossible, especially with older houses, to find an example that has not been altered or added to at some time or other, and it is for one to determine whether such changes are in or out of harmony with the original design.

There are three ways of effecting our reclamation: first, by bringing all later additions into the style of the original; second, by compromising between the several extremes; and third, to dress the whole structure in a new coat. Naturally the treatment depends on the subject, and naturally too, they should be preferred in the order given—the last only when the others fail. It can be said of this, however, that a very plain house of no distinctive style or period, and of a late date, may be used as a

block on which an acknowledged style may be built. That the subject should conform to the proposed style in proportions and general outlines, goes without saying.

In the previous chapter we have mentioned the old plan which received the addition of an ell when the son married and came home to live. Generally the style of the later structure was in harmony with the old and hence needs no correction. This harmony is governed by the sizes of the windows and glass; the style of cornices, doors and casings; and all such details which go to make up a style. The roof, too, was generally of the same pitch as the main roof, although the pitched-roof ell is permissible with a gambrelled main house. Whether your ell was a part of the original structure or not is generally to be detected in the framing. As a part of the original, the post which forms its junction with the main house would most naturally be found *within* the line of the main walls. If it be of later date and unless the width exactly fitted the width of a bay in the original house, the post will be found in the extension and attached to the *outside* of the main structure. Sometimes such a decision is puzzling to the layman, and in such a case the carpenter can often solve the problem. Whether your frame is hewn or sawed; of oak or otherwise; framed together and pinned or merely nailed; the nails wrought, cut or wire; these bear much on the problem involved. It is well to remember that while the wire nail may be found in old work, it is there only as an assistant to the failing faculties of the original agent, and that the original can easily be detected.

The walls, usually of wood, are not infrequently of brick or stone. Very few brick were imported, except in the South, contrary to a myth to that effect. Clay was plentiful, at least in the North, and even if the product was rough at first, it sufficed. But the early settlers did not waste much time with either brick or stone; both are rather the materials of a later development. One feature of Georgian brickwork is the projecting band at the height of the second floor, which, corresponding with the projecting underpinning, served to emphasize the stories. In the South, much was made of the ornamental laying of the material and some of this was most effective.

We have already mentioned that the early wooden walls were

generally of thick boards laid vertically on the frame. The *very* early methods were those of England:—studding, with brick, clay, chopped straw and plaster filling up the wall. We mention this merely because later it was boarded in and clapboarded, after stucco, as then made, was found ill adapted to the climate. There are very few houses of this type in existence. The frankly wooden walls as above described marked the most common form, being cheaper, and yet there were studded houses as well. At all events, the early covering was clapboarding, secured with wrought nails, generally clinched on the inside of the boarding. Under the head of clapboards we are considering the more robust and larger treatment afforded by “siding,” which is handled in the same way and has an appearance corresponding to shingles of large weatherage. The shingle, as a wall covering, was not used until much later, and then with considerable weatherage. Its use was not so extended as clapboarding, which had come to stay. A two-foot cypress shingle can be gotten which may be laid ten inches to the weather. Next best is an ordinary shingle, laid so that every alternate course is double, but this is naturally not quite so effective as the real thing.

Plain corner-boards were used, even with the first shingled houses; which covering eventually abandoned them. In that period where heaviness was a feature of all details, the corner-board was often in the form of a full-length square column with cap and base. Later this gave place to the pilaster effect on the front, but not infrequently the corner pilasters were removed slightly from the corners with two other like members in between. In this case a plain corner-board did duty for practicability. This is more distinctly Georgian; the Greek Revival which followed put back the corner column, which was frequently, in the Greco-Georgian style (the contemporary of the true Revival), a pilaster.

The framing of early houses followed the custom of the mother country—the second story overhanging the first, but unlike the practice there, the overhang was generally confined to one side or two opposite sides, rather than circling the entire building. Gables, too, frequently had this overhang, though less pronounced. Frequently, the second-story posts extended



Entrance motive to Hollister house, Greenfield, Mass., Built just prior to 1800 by Asher Benjamin. The porch is evidently of a later date



Two examples of the three-story house. The right is quite simple and has a flat hip roof. The left has heavy box window casings and the gable ends are of brick



Detail of the Bowne house, Flushing, Long Island, N. Y. Of the Pre-Georgian period and English in a Dutch atmosphere



The "stoep" of a Dutch house on Long Island, N. Y. This is a good and simple treatment, with excellent constructional qualities

below the supporting girt and terminated in what is commonly called a "drop." This tradition has continued down to certain later, but generally pre-Revolutionary, types in the Connecticut Valley, although in these the overhang circles the building and seldom projects more than three inches, being embellished with moldings. Contrary to all this, there are very old examples which had no overhang. It must have struck some of the early settlers that there was a considerable saving of time and money in the straight wall.

The overhanging second story has given rise to a belief that it was intended for defensive purposes. As such it may have been utilized occasionally. This method of construction, however, had become traditional long before the Colonial settlement.

Early roofs were very steep, and this because they were intended for thatch. With the advent of the shingle they became flatter. They were naturally simple in character and generally, though not always, without dormers. Prior to 1700 the gambrel made its appearance. This form was of French origin and became very popular here, while strangely enough it seems to be quite rare in England. There was so much of good and utility in both the pitch and the gambrel that their use has been a matter of taste down to the present day. The former gave a good attic and stowaway, and frequently bedroom space as well; the gambrel was frankly a means toward this latter utility, which afforded excellent space for shallow closets and drawers. In flattish roofs of the pitch type, where no bedrooms were required, the gable gives way to the hip; the ordinary gambrel is seldom so treated. A rather flat form occurs, however, in which the upper pitch is surrounded by a balustrade. The ordinary form is frequently treated in like manner, more particularly in cases where the gable is obscured by a brick end.

The early cornice was simply an overhang with the butts of the rafters showing, and with this the verge-board or visible rafter was used in the gable. Early and crude examples were apt to show the rafter itself. In any event, the member was flat against the building and devoid of elaboration. This treatment extended to the later gambrel and it was not until the early stages of the Georgian period that we have the boxed or molded cornice with the returns on the gable ends. As to the gable

finish, it remained practically the same—flat and with but slight elaboration, until the advent of the Greek Revival, about 1800, when we find the gable finish projecting and as important as the cornice itself. There are some examples antedating this, and particularly in the South, that have the full rake moldings and the full return, of at least a portion of the cornice, across the gables, after the Greek methods. The box cornice was, for a considerable period, of good depth and of normal projection, but the Georgian style, parallel with the Greek Revival, gives us a flat molding with a rather abnormal projection, which is pleasing nevertheless, in spite of its departure from Renaissance proportions. This, the last of what may be called, by courtesy, the Colonial style, almost always returns its cornice *across* the gables in the style of the Greek work.

The ancient and honorable roof covering is the shingle, and for the wooden structure nothing can equal it for effect. Even where slate was a local product, it did not fit the frame house. As a substitute for shingles the new asbestos shingle in the natural gray and natural shape is good; it approximates the gray of weathered shingle and is non-burnable. It can also be used for the brick or stone structure.

The wooden shingle can be much benefited by dipping before laying. Perhaps the cheapest way is to mix your paint to the color you desire and of a consistency as for painting; then thoroughly mix this with an equal bulk of creosote oil, and dip the shingles a little more than twice your proposed weatherage. If the roof water is to go into the cistern, the roof should wash for a time before turning the water into it. A brush coat of stain may be applied from time to time. This method may be applied to the house walls, if they be of shingles. The bleach or weathering which external woodwork acquires when unprotected, may be imitated by toning down with white a mixture of black and umber.

The earliest form of dormer is that with the lean-to or pent-house roof and this is merely a flattening of the pitch of the roof from which it springs. Later we have the pitched gable and hipped dormers to be followed by the segmental gable. The final effort of the true Colonial or Georgian was the combination of dormer forms in a group of three and not infre-

quently these were connected by a balustrade. Dormers were generally small containing but one window. The gambrel dormer is not common and when found is apt to be larger than the run of other types.

Early cornices had no gutters; it is in fact a comparatively new device. Where it exists it should be retained as originally designed. Its first form was an independent detail of wood hung on iron hangers; its utility demonstrated, it became incorporated in the cornice. As the metal gutter is superior to the wood, our usual problem is simple. Early conductors of wood were treated architecturally; if used at all they fit best the more pretentious houses and even then are best considered only as an envelope for the corrugated metal. After all, the corrugated copper style with a rectangular section is better and fully as effective. In the simpler types the galvanized conductor may be used but should be painted the same color as that portion of the house against which it comes and thus avoid as far as possible the appearance of an emphatic detail, which is somewhat the function of the more elaborate type. Prior to the gutter, the drip from the eaves was caught and distributed by flagstones laid next to the underpinning on the ground below. This feature preserved, serves to carry out the old idea to advantage.

With the exception of the simplest types, the side facing the street is generally treated more elaborately than the other sides, for while the casings of other doors and windows may be comparatively plain, those of the front may be treated with caps and further embellishments.

The front door generally is in the center and therefore is naturally *the unit* of exterior design, about which lesser details arrange themselves and take their inspiration. Pre-Georgian doors were of the batten type and of oak; marked off with a scratch-awl into a diamond pattern. Where these lines intersected, the door was studded with iron nails. Later came the panel, in which the face of this was flush with the rails and posts, having only a small bead molding at the edges running the length of the panels. This type seems to have persisted and to have been used even after the beveled sunken panel appeared. This last was for a considerable time used with a bat-

ten back as an exterior detail. It was sometimes divided in the middle and swung in two parts like a Dutch door with its elaborate paneling, but for the most part it was single and comparatively simple. In the early forms it was solid without top-light or side-lights, making a dark hall. Then the upper horizontal panel was altered to receive bull's-eye lights, which were later added to the transom. These gave way to the simple top-light, which, gradually elaborated with wooden muntins, finally blossomed forth into leaded glass. With its first elaboration came the side-light and these in combination effected sufficient lighting area, even for a considerable hall.

While the first door trim was absolutely flat—a plain enclosing member like the window casing—it shortly took on a cap and back moldings and, later, pilasters. In certain sections the pilaster developed into a three-quarter-round column and the next step was the isolated column and the open porch, while in rare instances, a hood was supported on brackets. Shortly after 1800 the enclosed pre-Georgian porch came back again, minus its second story. Where one would add an enclosed porch, which however would cover a creditable doorway, the porch should be so adapted and fitted as to leave the doorway entire and without mutilation.

Windows were sparingly used and of moderate size all through the early period. They were first of the casement type and diamond-paned set in lead—at least after the oiled paper and mica period. Towards 1700 these gave way to the sliding sash with wooden muntins and small rectangular panes for the front and important rooms—following the new style—but the leaded casement was still retained in the rear of the house, in some sections as late as 1860. Casement windows were also made for small openings, with rectangular glass to conform to the sliding sash, but for our purpose, whether we desire cement or sliding sash, the leaded sash and diamond pane may as well be ignored.

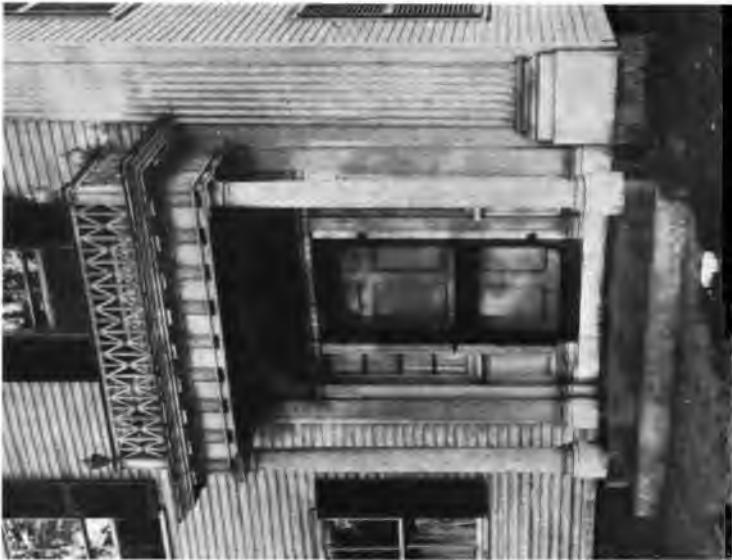
In the early wooden sash, the muntin was quite heavy and, we venture to assert, more effective than the later and lighter types. The chief objection raised against the small pane is the work required to keep it clean; there is hardly a question as to its looks. If one really cares to perpetuate this feature and



This doorway is also the work of the craftsman. Its head is called a rolled anl interrupted pediment. The heavy window cases are in keeping



This is essentially a craftsman doorway, which has employed certain unarchitectural inventions in the caps and pediment. Note the braced double door



This entrance is a rather elaborate example of the New England late period as influenced to an extent by the Greek Revival. The plan is the "G" type.



Details of a Dutch house on Long Island, N. Y. The shingle work and general scale and proportions are excellent. Note the window shutters.

does not intend to occupy the house in the winter, the effect can be obtained in the following manner:—The type of house to which this small pane most naturally belongs, had a plain or comparatively plain casing. This being so, the member can be reinforced so as to take an outer sash of the style desired, showing practically the same relation to the new casing as the old glazed sash does to the old casing. But the new sash may be made in one piece and of seven-eighths stock and covered with wire screen on the inside. Blinds may be hung outside of this, if desired, and controlled from the inside. The sash proper should conform to the divisions of the screen with as few divisions as possible—perhaps one light to a sash. This scheme might be elaborated so that the screen is a fixture independent of the sash, being replaced in winter by a storm sash, leaving the dummy sash still in place.

Early window-casings, like those of the door, were plain and held this characteristic in the simple types, to the present day. With the advent of the sliding sash arose a new difficulty owing to the thinness of the exterior walls, which were heavy boards fastened vertically to the frame, devoid of studding. Naturally, there was not width enough in the thickness of this wall to accommodate the new window frame, since it was made of fairly heavy stock, framed and pinned, so it projected beyond the house wall. This feature was retained in some instances even after studding came into use, where it was desirable to help out the deep window-seat. Later it led to the external projecting feature, taking the form of a flat bay of the same height as the house. With the brick or stone wall, this subterfuge resorted to in wood, did not, of course, exist. Window frames were heavy and solid, owing to the absence of weights, and were as effective in their way as those in the wooden houses.

The plain board casing, though checked for a time, for the reason above described, returned to its own with the studded wall. A simple back molding or band came into use, but many were absolutely bare. This flat casing was also elaborated, as a matter of course, with molded cap and stool to keep pace with the entrance and other motives, and was considered an index of prosperity.

In the spacing of windows, we note that they are seldom if

ever nearer together than two-thirds their width and then used only in pairs. Ordinarily more space is allowed. The only legitimate way in which they may be placed closer is by arranging them in a simple square bay, and while this is traditional of English work and of our own early shop windows, it is probably more of a feature of the street line than of the open country and would find little authority in existing examples. Nevertheless the feature is permissible and if treated in a light manner with consistent details, should fit the place. Its great pitfall is over-elaboration.

Our attention has been called to the fact which, if extended, is in all probability sectional, that the elaborated doorway is supplemented by a comparatively plain window and vice versa. The doorway is, as we have already remarked, the dominant external feature. The area of the window-casing available for elaboration is comparatively small and from this and certain structural conditions would have to be finished at the start as intended. The doorway, or rather its elaboration, is often superimposed upon a plain casing, which serves to cover the preliminary structural problems. These last concluded, the elaboration has been deferred and perhaps abandoned. Such few examples as we have noted, suggest nothing else.

The window shutter was devised to exclude, beside the wind and weather, much more serious marauders. Its early form, like that of the door, was battened. As a real feature and a means of closing the house for the season it is valuable, but it cannot compare of course with the blind as a sun shade, and under ordinary conditions must give way to the latter, unless one has the inside blind to fall back on, awnings being too modern for the remodeled house. One way of retaining the shutter and doing away with the blind is through the use of an arbor or trellis enclosing a window or group of windows. This should project far enough from the house to cut off the sun and would be found practical enough unless the exposure was due west, where the sun drops a bit too low. One might grow grapes on such a structure and thus keep all the leafage at the top where it is wanted; in the winter your screen is rolled back and the sun has a chance.

Speaking of the blind it is well to know that the older it is,

the heavier it is found; the earliest form we know is between three and four inches thick with correspondingly heavy louvers. Where one is having blinds made, they should be heavier than our modern article, with the fixed rather than the swivel louvers.

The piazza is not, strictly speaking, a feature of the Georgian style. Its existence is common enough to be familiar but it is not the rule. Southern mansions, molded on Classic lines, have embraced it and the Greek Revival has made a feature of it, yet our early habitation knew it not. For all this, it is one of the demands of our modern life and hence must be reckoned with.

The layman usually sees the thing in one of two ways and the result is round columns and balustrades or square columns and balustrades—according to taste. The former may be the tortured design of some carpenter or a real gem, and yet not fit. The latter is generally clumsy and looks equal to the task of Atlas, which it is not.

As a matter of fact, our problem is really not so serious as might at first be supposed. Our cornice should ordinarily reproduce the house cornice at a slightly reduced scale, unless limited by the cap of the front entrance. Our roof would generally be hipped; frequently (with a pitched-roof house) it may have a shed roof and in this last form it may come under the extension of the roof of the main house. For convenience the floor would most naturally be one step down from the house floor and this brings us so low as to be practically on top of our underpinning. Therefore it is best for the house underpinning to extend under the piazza, in which case our floor might be of flags or brick or a combination, rather than of wood.

The columns are the most difficult to keep in style. If your front entrance boasts a pilaster, your inspiration is at hand, and in such case the lines of your entrance cap should govern, in a measure at least, those of the piazza. The new free column may be round, unless your pilaster be very scanty indeed. If the pilaster be bulky, there is all the more need of the round free column; the round column of the same diameter as a square one, appears smaller than the latter. If your front entrance be of that debased Revival form—and we do not flatter it by calling it Greek—in which the moldings are more Gothic

than Classic, it might be well to correct the original on Greek lines and start afresh. So much for the front and sides of the house under the most favorable conditions, but for the rear, we are apt to find another form of treatment, which is more difficult.

Should your house be devoid of inspiration as to the column and still be not of the oldest type, one naturally looks about for a similarity and the necessary hint. Failing in this there is a chance that some upright interior detail contains the desired unit, and in such case its proportions should be increased for exterior use and probably simplified into the bargain. Should all else fail, the absolutely square column with perhaps a small quarter-round or cove molding in the corners, free from cap or base and bearing much the same relation to the cornice as the corner-board does to the house cornice, will be found to be less liable to criticism than some more elaborate forms.

Old age demands respect and for that reason we approach our oldest examples with caution. In the old work, the frame was the thing; it stood out like the muscles of a strong man that defy entire concealment. Often it offered all the structure could boast of in the way of ornamentation; in its spacing and simple details, it was decorative. What, then, is more natural than that the piazza (had it existed) should have been framed in the manner and as a part of the house? The builder was not afraid to expose his frame to the close inspection of the inside; why then should he not expose the outside? It is nearer to the true meaning of architectural (decorated) construction than the usual tacked-on affair with the round columns, which we all know as the piazza.

But we have another argument in support of our theory and will spare the reader and ourselves his intended interruption by introducing it at once, and we need not trouble ourselves to go out of the Connecticut Valley for this purpose. First, however, we would remark that the framing post—the floor beams also—was generally treated on its internal angle with a chamfer which lost itself in an ornamental cut several inches from the ends of the timber. With this as a tradition, the successors of the original builders erected structures, probably as late as 1770 and surely considerably before, in which their posts were made after the method of the ancient beams, although generally

lighter and more or less octagonal in section. The simplest of these were straight, but later forms tapered the chamfer and even the flat sides of the post to a certain extent, so that where the chamfer ended at the top, the cut that eased it into the square portion above, gave the latter a cap form. We have called our argument a theory, for the reason that the actual treatment did not, so far as we know, take place in the earliest houses. We are strongly of the opinion, however, that such would have been the treatment. This form of post was contemporary with the round column and tapering pilaster, being used with it at the back of the house or on lesser and simpler buildings of the time.

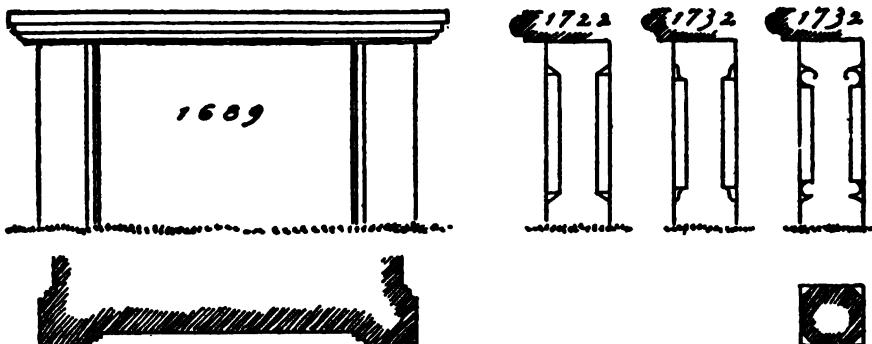


Fig. 9—Showing pier which supported the horizontal slabs in the old-time burying ground.

We hate to send to a grave-yard for data for the house and yet, with care in handling, there is much material there. The posts which supported the old-time slabs have preserved in stone what we may have lost in wood, and if we take the trouble to compare existing examples of both we will find much similarity in handling, a fact that is most natural.

Although we may assume the foregoing treatment to be permissible for the early effect, and locally for a much later period, there is another treatment which first shows itself in the early Georgian and which may be adapted with excellent results. This is the adaptation of the elliptical or segmental opening heads which framed the old-fashioned woodshed. In some cases these may be well fitted to the piazza. At any rate the motive may be copied.

Rails and balusters were simple; examples of the latter, turned, are common only in the later work. They were generally square and spaced about twice their width apart at the closest; earlier spacing was much more, and in the early forms the baluster, as in the case of the stairway, did not exist. Speaking of the stairway reminds us that there is much similarity between it and piazza railing and that some inspiration may be found in the former for the government of the latter. In the earliest style we would eliminate the baluster.

The sleeping-porch is a little more difficult of solution than the porch in most cases, although the double-decked and rare second-story piazza solves the problem well enough. It is safer to keep them in the rear as a rule. The solution of the regular piazza problem may help us, but we are of the opinion that the sleeping-porch is best located within the house wall. It might be treated after the manner of the second-story hall, with Palladian motive or perhaps as a flat bay of several windows; in either case it should become a central motive, unless in the latter treatment it should be placed on the corner of the end of a wing. There are several ways of avoiding this difficulty all of which require careful handling of details.

The baluster is not a feature of the early roof fencing so common in the later houses; it only occurs in porch and piazza and the very latest examples of the main roof. Its substitute was the cross-brace between posts, either plain or further elaborated.

The open porch naturally comes under the same head as the piazza and, where the two are used, it should predominate. Any attempt to build in side seats should have good local authority or else it is better to employ the old-time settle as a movable piece of furniture. This is reproduced and easily procured. As a final caution, it is well to remember that the pergola or any suggestion of it, has no place in Colonial architecture.

The chimney, which is either of bricks or stone, is seldom, in the North, found as an entirely external feature. This, which is an old tradition, seems to have flourished largely in the South. It is often interesting from its indication of the fireplace within. In the North, the end chimney came within the house or in a masonry wall, forming a part of it. In the early type, the chim-



This shows that the Northerner had some ideas regarding the second-story piazza, which differed somewhat from those of the South. Taylor house, Roxbury, Mass.



A rear piazza in the Connecticut valley, with the "kicked" roof. The problem is one of framing and was solved without the aid of the turned column

Whitman house, Farmington, Conn., which, extending below, are terminated in "drops"

Details of overhangs of Whitman house, Farmington, Conn.



Detail of the overhang to a Colonial store, showing the post as a part of general frame. The channel, enlarged to give the post an octagonal section, is terminated by "lambs-tongue" cuts

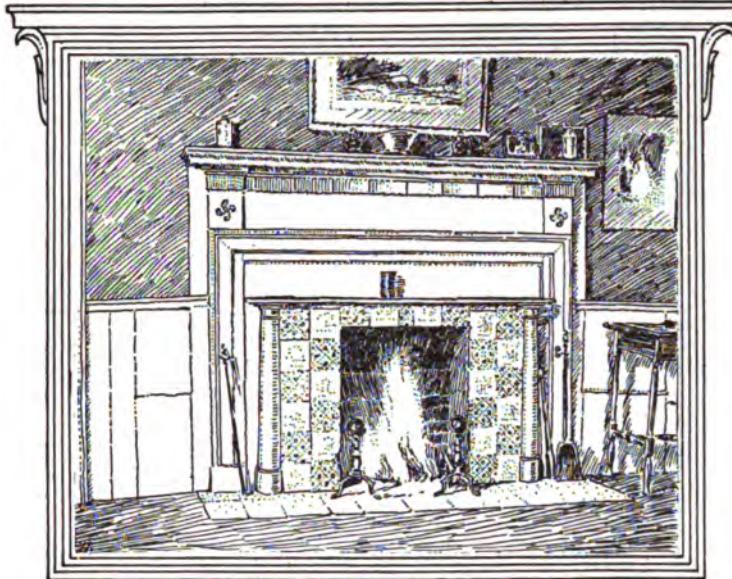
ney flared largely at the top, later it contented itself with a slight projection and lastly resorted to the flag as a top covering. It was generally made of such material as the locality afforded; brick, paving cobbles or roughly faced stone; the rough field stone was never used, at least to the extent that would form a sane example. Mortar was white, there being no cement. The black brick, frequently used in the South, were not a feature of Northern work, although it is occasionally seen.

Early houses were not painted, either inside or out, and one is often tempted to preserve this weather-beaten effect. Old examples testify that our first paint was red and it is a question whether white or yellow came next, although we frequently find the yellow with the red underlay. The yellow may be the aging of the oil. As the three are accepted as Colonial there is little excuse for using anything else. The white house with the green blinds was a favorite and has lost nothing of its dignity by long use. Where the woodwork has become clogged by many applications of paint, the same should be burned off to restore crispness. This should be carefully done as there are frequently cracks and openings in old buildings into which it might be dangerous to introduce the flame of the burning torch. Do not mistake, as an effect of the paint, the woodwork that has been worn and weathered while bare of the preserving coating. As the grain of the wood is suggested, it is easy of detection.

We will close this chapter with a few cautions, at the same time begging the reader to investigate and reason for himself and in his investigation be careful that he is not fooled by comparatively new details, which may be, but are probably not, authentic. The main house is the major and most important mass and should so remain. The front entrance motive is the dominant external detail, unless overshadowed and thrown off center by a large and important piazza, and even then it should become secondary so as still to hold its importance. Keep external details generally simple but of a larger scale than those of the interior; too small moldings are apt to lose their character after several coats of paint. If it be possible the run of horizontal lines through the various details, where the same come reasonably close should be preserved, or else ignored entirely in favor of throwing them out of line. And remember above all

things that external simplicity is less culpable than over-elaboration and far less liable to jar if it does not quite happen to have hit the mark.

It may be well to add, that in the old house which has at some later date been remodeled in the style of the Greek Revival, for instance, there was a chance for other changes in the interval and we may assume this, if not already done, clothing our Georgian motive in details of the later style. This of course gives us a certain crudeness, which however may be made interesting.



Chapter Four **INTERIOR DETAILS**

THE vital questions relating to the cellar have to do with interior comforts and utility. It was the usual custom to place the old house near the ground, which limited the light area of windows to such an extent as to render the cellar damp as well as dark. It is quite evident that the windows must be enlarged in height. As it is not advisable, unless the house be absolutely on the ground, to increase the underpinning and hence lose a valuable characteristic, our only resource lies in the use of the area. As it happens, this has already been resorted to by the Colonists themselves, largely in cases of the house on the street where the grade—at some later, yet still ancient time—had been raised. Thus we have our problem solved for us and from it we gather that the area wall was usually of brick and of a half elliptical shape, so made to withstand the earth pressure. In our rendering we should carry the walls of the area down far enough to eliminate the possibility of an overflow of water into the cellar, and with that in mind the bottom of the area should be left open and the portion below the win-

dow-sill filled with gravel. Another method, which is perhaps preferable, would be to concrete the bottom of the area just below the sill and connect the same with a tile drain, which shall skirt the house and discharge some distance from it. In any event it is well that the walls of the cellar be gone over and well pointed up with cement.

Not only was the cellar dark, but it was frequently low as well. That this is an inconvenience, outside of the problem of heating pipes, is readily understood and unfortunately it is not always easy to remedy it. There are two ways possible: one is raising the building from one to two feet and carrying up a terrace wall several feet away from and about the house to preserve the apparent relation of the latter to the ground, and another is digging away the cellar bottom, say from sixteen to thirty inches, and putting in a low retaining wall next the cellar wall. The first is effective when complete but its great objection lies in the questionable condition of the house sill and timbers. The second has several advantages while slightly reducing the area of the cellar bottom. The low wall can be carried up, if desired, as a shell within the old outer wall, and if it be laid solid in cement and the new bottom concreted and drained, you will have stolen a march on the invasion of moisture from without. In any event, the old cellar should have a drain as the walls are more apt than not to be laid dry.

On Cape Cod one finds an unusual form of cellar which seems to have been calculated to withstand the shifting and unequal pressure of the sand. It is circular in shape and independent of the house foundation, except for two or three intersections at which occur windows.

Old framing was of oak and heavy, often unduly so. Its early characteristic was that of being exposed and becoming a part of the design and general embellishment. In the first houses, the big sill was set *above* the floor timbers and one stepped *over* it on entering the house. It projected into the room and formed a low narrow ledge; perhaps many still remember this peculiarity. There are few houses of this sort still standing. While the earliest beams were roughly hewn and perhaps bare of ornament, they still had the effect of being made to be seen, for such beams as were used later and intended to be

ceiled-in were very rough and often showed the round of the tree-trunk. When there was the time and money, the beams had chamfered or simply molded edges, terminating near the beam ends in more or less intricate cuts.

The first stage of this construction was the entirely wooden ceiling, in which the floor boards of the story above showed. A big beam, called the "summer," was set in the center of the room and corresponded to the house girts. Into the girt on one end and the summer on the other, the lesser beams were framed. The second stage ceiled in the lesser beams with plaster and often this treatment was applied to the first stage. The third stage gave us a cased-in beaming in the general style of the first stage. The fourth stage had the cased-in summer with the lesser beams plastered. While it was properly contemporary with stage three, it endured long after the other had passed out. In stage five we have the plain plaster ceiling covering the entire floor framing, with the cased-in posts, girts and cross-ties alone showing of the frame. Later these disappeared in the wall and the charm of the old construction was hidden. Another treatment lay in the early abandonment of the summer beam and using a floor beam laid in the manner of modern times.

The early roof rafters, like most horizontal beams (except the lesser floor timbers, that were intended to be seen), were nearer square than the modern article and frequently were wider than their depth. No ridge-board was used as in modern work; the rafters met one another directly. In the interval between the plate and the ridge was a horizontal member whose office was similar to that of the plate—to help support the rafters. This in turn found support on jack-posts over such main partitions as occurred below. Sometimes we find the roof boards running up and down while the work of the rafters was done by purlins. This was more common in early work and is not a good roof to shingle on. That it is a tradition of the English roof is evident. The grain of a shingle should not run in the same direction as that of the boarding to which it is affixed and thus form the great danger of splitting.

As near as we can determine, the first floors were made with plain-edged boards laid close together. Under the intersection was a thin strip which served to close up the crack. There are

examples of floors in which the edges of the boards were rabbeted and lapped but the common form which found much favor was that of the double groove with the loose tongue which was the ancestor of the tongue and groove. The first double floors were not matched, but returned to the early method. Our problem is generally that of an upper floor, which is mostly needed to straighten and level up the old floor. As the old floor cannot be imitated, owing to the tendency of wide modern stock to shrink, it is best to lay it as is the up-to-date custom. Artificial heat, while detrimental to all woodwork, is more so to the wide board; it *will open joints*. The second story floor, however, may be in good enough condition to preserve.

We have mentioned, in the previous chapter, that after the abandonment of stucco as a wall filling, houses were built without studs, the frame being covered with heavy vertical boarding to both sides of which the finish was applied. This was at least a Northern custom and extended into the time when studded houses were being built.

The early form of wall covering was of wood, called wainscot. Its wide boards extended vertically from floor to ceiling and were lapped or put together with the loose tongue strip. Interior partitions were made in this manner without other support. In rare instances this wainscot was applied horizontally, the same as siding, in which case it was affixed to studding. This early interior studding was simply rough boards set after the manner of wainscot but with open joints; its use was common for a long period. Wainscot was also paneled in later work; but to distinguish, we shall confine the term to the early form.

When the use of plastering became common, outer walls and the main partitions were lathed and so covered, but for lesser partitions, the wainscot with the loose tongue survived well toward the Revolution. With the plastered wall, the dado came into use and has never since lost its popularity. For a long time it was but a plain board reaching from floor to window-stool. The base helped out its height and the window-stool, continued, became the dado-cap. Later it was paneled; an effective detail of design.

Early and middle period houses were very low studded; about seven feet and sometimes even less. Where one had to heat



This is a very good example of the old kitchen of the Pre-Revolution period. It is used as a living room in a house of the "B" plan. All details are very simple. The old oven occurs behind the cupboard door at the left of the fireplace and was a step toward the changing character of the room and its eventual transplanting to a rear ell. (C. L.)

Detail to stairway of the Bowe house at Flushing, Long Island. This is the primitive type and treatment, using the solid stringer, no balusters and the "leaf" wainscot



Hall of a Dutch house on Long Island, N. Y. This has the typical flat crisp handling of the late work. The walls have a mottled texture, worked in the plaster



with wood, whether by fireplace or stove, economy of space was most desirable. Early windows were small, in consideration of the heating problem. As we have already stated, the chimney was the key-note which fixed the harmony of the plan. It is the one unit which one watches with distrust, wondering what it will do next; the eternal question is, when will it set the house afire? We do not wish to scare the reader, because there are many things in his favor, but we wish him to take the chimney seriously—it is a most powerful agent.

The least one can do is to have it examined carefully. Fortunately, the older the construction, the larger the chimney and the easier for the mason to get down inside it—for this is what must be done. Generally we find that the top of the chimney has crumbled and deteriorated from the generous use of soft brick and the wear of many rains, and this is not limited to the exterior. Such condition is best treated by taking down the chimney to the attic floor, or in extreme cases, below it. Such will probably save in time and labor the extra work, as it is a slow and tedious process working inside the chimney walls. Part of the work is, however, of this nature.

In reconstruction, where it is possible to get at it, the modern tile flue lining should be used and where not, a galvanized pipe may be let down and filled in around with concrete made of lime and cement in which hard brick-bats are used. As no dampers occur in old-time fireplaces, the smoke chamber (the enlargement of the flue above the fireplace) is fairly easy to get at from below and can be plastered over and otherwise repaired if necessary. The plaster should be of lime mortar with but a dash of cement, as pure cement disintegrates under the action of fire. When this is plastered to the height of the beginning of the flue proper, or as high as one can reach, tire-irons, set across the flue on edge, and bedded in the masonry, may serve as a rest on which to start the lining. As this, of a size that can be used, must of necessity be smaller than the old opening, there will be considerable space about it to stop up. A galvanized sheet put on top of the new irons will serve as a base on which to build and the whole should be shored up until the masonry has set. The new masonry about the new flue lining, should be solid, whatever its character, and if it can be brick and mortar

laid in the ordinary way, so much the better. If one has to tear down the chimney near enough to the fireplace to build in a modern damper, this work should by all means be done.

The round galvanized flue is suggested only in cases where the tile lining cannot be used; tile is of course better. If one can get and use the round tile, its working is superior to the rectangular form. Smoke ascends spirally and there is consequently less friction where round tile is used. A round tile of twelve inches in diameter would equal in efficiency a square tile of the same dimension; some claim it would more than equal it.

The interior partitions of an old chimney are generally easily removed and thus internal operations are not hampered as might seem probable. One should not be surprised at what is found there, as the early chimney was laid in clay with the free interjection of oak timbers in the masonry. The modern mason, starting at the base of his new work, climbs gradually skyward by shifting about on his tiles; at the same time his new chimney is filling in solidly to the inner skin of the old.

Before doing anything in the way of reconstruction, it is well to consider the advisability of introducing extra flues. The same flue should not serve two fireplaces, nor should a stove tap a fireplace flue unless it be on the floor above it and even then it is best independent. As to sizes of flues, we generally consider that the ordinary stove calls for an eight by twelve flue; the lesser stove calls for an eight by eight and the heater a twelve by twelve flue. For the fireplace we generally reckon the area of the flue to be about one-tenth the area of the opening into the room.

As the oak sills and girts of old work were rather hard gnawing for rats, their usual highway was by way of the chimney. To avoid this a strip of tin or galvanized iron will close up the space between masonry and woodwork in both cellar and attic. The squirrel and chipmunk are also a menace, entering the house by way of the eaves. A judicious use of wire mesh will prevent their entry further. To avoid further damage, destroy them.

In the building of a new chimney we have it all our own way and can proceed by modern methods. In the base of the old stack should be an ash pit with a clean-out and, connecting with

this, an ash flue from each fireplace. Although a limited accumulation of ashes on the hearth serves to give a better fire, they are constantly in need of reduction and our ash-dump has its utility. The common fireplace is three feet wide and requires an eight by twelve flue. Ordinarily we consider the height of

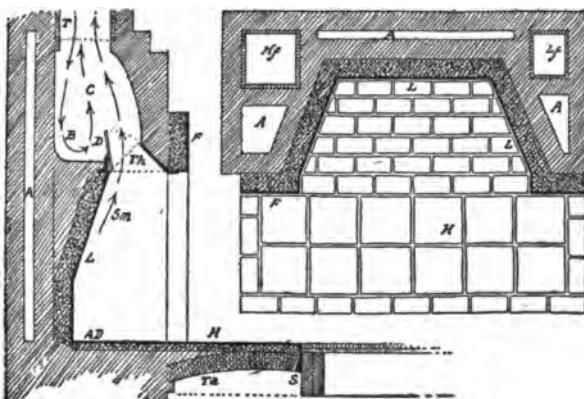


Fig. 10—Section and plan of a practical fireplace. If an ash-dump opening is desired, it is located in the back of the hearth at AD. A—air space; B—back draft; C—smoke chamber; D—damper; F—facing; H—hearth; Hf—heater flue; Li—laundry flue

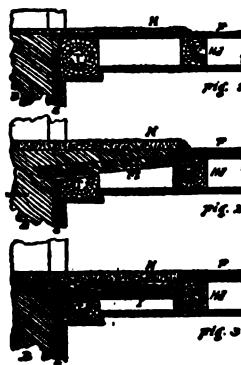


Fig. 11—Sections illustrating the incorporating of a hearth. Fig. 1 shows a hearth laid on the floor (very bad); Fig. 2, an incorporated and raised hearth by aid of flagging; Fig. 3 the incorporated flush hearth by aid of irons. Hd—header; H—hearth; F—flooring; B—brickwork; S—plank studding; Fl—flagstone; T—tie beam; I—tire irons

the fireplace opening to be about three-quarters of its width, reducing to about two-thirds in the larger sizes. The depth should be about one-half the width; old fireplaces were often deficient in this respect and smoked or scorched the front of the mantel in consequence. The outer hearth should extend into the room about the depth of the fireplace. The lining should be good medium common brick, except for the back and perhaps the inner hearth for which fire-brick are commonly used. These resist the heat better than others, but their light color is rather out of harmony with Colonial design. As a possible substitute, the black header laid as such will be found serviceable and unobtrusive; in fact the entire inner portion of the fireplace may be built of these. The black header is the brick next to the fire in the brick kiln, and if it has survived this first baptism, it will

answer. In any event, it is best that the inner lining be only four inches thick and generally independent of the backing, so that in case of deterioration it can be easily replaced.

Old fireplaces were commonly built of brick, but often of stone which chipped and crumbled when in contact with the heat. Some types used a brick instead of a stone back, which helped; but the stone hearth suffered. Another provincialism was the use of stone flags for the jambs and in fact all else but the back, which was of brick. More pretentious examples frequently had the familiar iron back. As a matter of practicability, it is best that the entire lining and hearth be of some simple and serviceable clay product, neither too smooth nor uniform, although we might concede a point in favor of the flag jambs.

While the earlier fireplace was entirely of brick or stone as we have stated, the later facing was not always of the same material as the lining; in fact as time went on the tendency to deviate became more pronounced. Thus we find the plain and carved soapstone facings and later those of glazed tile and marble. As the early facing was generally of comparatively small width, it is easy to see why it was not made more of at that time.

Of the two contrivances made to hold the pots in early cookery, the trammel bar with its suspended hooks or trammels, was the earlier form. The crane, with its pot-hooks followed closely and is quite ancient, according to our reading of the times. The crane is frequently made use of in the restoration; it gives an ancient touch, not obtainable in any other way, only the real ingle-nook can rival it and this is a contemporary of the trammel and bar. If you find these last installed in your fireplace, your house in all probability dates prior to 1700.

One of the best materials for the ordinary hearth, was the red "Dutch" tile. It was about nine inches square, rather uneven, and fortunately can still be procured. The old hearth was frequently of stone, more particularly in the early work. Although it is more or less affected by fire, it may last considerable time if used as an outer hearth only. It was generally supported by projecting wooden beams, built into the chimney base. In rebuilding or in new work the hearth should be supported on masonry foundations or piers for very heavy materials, as the

case requires, while lighter tiles may be well cared for by the trimmer arch.

A development of the fireplace is the fire-frame or ancestor of the Franklin stove. It consists of top and jambs of iron set against the brick chimney facing, and is an excellent radiator of heat.

Frequently one is confronted with the "fake" fireplace—one that, while efficient as to its inner self, lacks the outer hearth. Now this latter necessity cannot be laid on the floor; we must tear up and get below it. Then again the big tie-beam comes across the front of the chimney, making it out of the question to turn a trimmer arch, even if we care to tear away enough of the ceiling below to set and remove an arch form. As the tie-beam is perhaps from eight to ten inches deep and the question of support is settled, we can, therefore, cut away from three to four inches from the top of this stick where necessary. There are then two ways of effecting results: the first consists in laying a two-inch flagstone from the reduced fireplace opening (so as to clear the beam on an upward slant, by at least one-half inch) to the new header. The second utilizes one-inch iron straps set on edge, on which a course of brick is laid flatwise. In both methods the masonry is leveled up and the hearth laid on top. It is best, in saving space below, to set the tile their full height above the flooring breaking a molding around. In extreme cases the hearth may be even higher, but not if it can safely be avoided as there is a tendency to stumble over it anyway. (Fig. 11.)

One naturally turns from the fireplace to the mantel. This as we commonly understand it, signifies the framing of the fireplace with the embodied shelf. In the earliest work this embellishment did not exist, but the great oak beam which supported the masonry over the fireplace opening, called the "mantel-tree," was the only link between the earlier mantel or hood and the form that followed. Soon, however, the space about the fireplace was paneled and frequently we see the whole side of the room was thus treated. (This was the paneled wainscot.) Not only were new houses built in this style, but the older ones were thus embellished. With this treatment the old oak mantel-tree still remained—at least until the fireplace opening was much reduced, when an iron strap assumed the function.

The first mantel, which was incorporated in the wall paneling, was a slightly molded frame about the masonry. The mantel shelf did not occur at first and its introduction was in the form of a foreign or independent motive—an after-thought which had no connection with the design of the original paneling. Later, however, it seems to have found its place, for the mantel gained an individuality and distinction beyond the paneling which surrounded it.

The earliest stair of which our records speak, was the ladder and this in some form or other was the primitive thing. A later form of development we may see occasionally in the cellar stairs of the oldest houses, but this has vanished from the story above, if it ever existed there, which seems more than likely. We refer to the ladder form in which the rungs are triangular sticks of timber, framed into flanking plank stringers, which while steep, give the flat tread of the stairs. The next form was the common one which we all know, the molded box stringer which resembles our plank; small, square, and simple posts, plain rail and *no* balusters. This is the form one sees in our earliest existing examples; later it took on the baluster. We should not be fooled by the absence of the baluster, as often the rail was grooved on the under side to receive them but their installation was deferred. With this groove they are naturally of the second stage. Later this form drops the box stringer and adopts the open one; that which shows the step on the stair facing. Gradually the console form finds favor as a stringer ornament; it essays carving, the posts and baluster are no longer square but turned, the post is a cork-screw, the rail caps the posts and terminates at the bottom of the staircase, in a volute, the stairs flatten out and become easy of ascent, and we find ourselves at the beginning of the high-water mark of Colonial development, just prior to the Revolution.

In a previous chapter, we described the window as an external feature. An internal feature which came between the casement and the sliding sash was a solid sash that slid sideways in grooves cut in the casing of the girt and the dado cap. It is not likely that the scheme was ever very popular or successful and it was probably sectional. It seems soon to have given way to the ordinary sliding sash, but we have mentioned it in



A Southern interior doorway in which the rolled pediment is evidently a later addition. The simple wall paneling and the dado cap are excellent



A built-in buffet of the early type, which is probably later than the house, or at least is not considered as a part of the general design



A New England hallway of about 1750. During this period the details were moderately robust and refined



This Southern type may also be found in the North, thanks to English architectural books. While the New England type above has been evolved from an "A" plan, this is frankly of the "J" type

view of the fact that the reader may possibly run across the grooves and naturally wonder what they may mean.

The early window was small and high from the floor and its casing plain to bareness. Later a simple back-band was for a considerable time the only embellishment. In time and in the more elaborate examples, it gained a cap and eventually a pilaster; it even boasted carving. In the period of the Greek Revival the casing was generally without back-band and in this form was fluted or grooved, with square corner blocks, and frequently a rectangular panel interrupted the lines of the horizontal run. These panels and blocks, while frequently plain, were often creditably carved in the Greek style. This influence extended at times to the less classic Georgian.

The decorative value of the large muntin with small panes is not to be underestimated. When a window had twenty or twenty-four panes, it is quite evident that the hole-in-the-wall effect was obliterated. Our modern tendency toward large glass has absolutely destroyed a valuable architectural detail, the more to be lamented in that it is vastly essential to the best principles of design. We are thankful, therefore, that we but have to refer back to our originals. The pity of it is that so many old houses have largely sacrificed their identity to the modern vanity of the large glass.

The treatment of the door trim is parallel with that of the window, only that it is often more elaborate and important. While the opening in a masonry wall may be square headed or any form of the arch, those of the wood should—if we stick closely to architectural principles—be square headed. However, the Georgian style, inspired from Italian examples built of masonry, in its wooden forms, has the license of long usage, so one seldom thinks of the fact that the arch has no place in wooden construction.

The lack of closet room in the early houses was due to the fact that the comparatively scanty furnishings were otherwise disposed of. Clothing, if not hung about the room on pegs, was stored in the chest, case or wardrobe. The few wooden or pewter dishes were kept in racks. The opening up of all available space was desirable.

The first buffet shows clearly that it was originally a mov-

able piece of furniture. Generally placed across some corner, it was as a stranger in a strange land. Clearly under Georgian influence, it attached itself to the older style, like a barnacle. Gradually, however, it became as one of the family and a delightful and serviceable detail of Colonial work. Its ornamental form had the round headed opening and the interior was semi-circular and half domed after the manner of the Renaissance niche. The modern tendency was to use leaded glass in the doors, but the wooden muntins seem so much simpler and more in harmony, that it seems a pity to over-decorate it.

In a general way, the character of moldings may help to determine something as to the period of a building, especially when other details are lacking. First the molding was conspicuous by its rarity, then for its simple and often crudely worked surfaces. In scale the early forms were generally larger than those following. It was, too, rather lacking in projection, compared with the round fullness of later forms. Crudity alone may simply mean less expert work produced in a locality away from important settlements or main highways. From the early to the middle stages we note a slight increase in members and decrease in scale until we arrive at a stage in which some members are almost minute. Then comes the later stage in which carving added to the general richness. This last stage extended beyond 1800 and was last of the true Georgian. Following this came a composite in which the Greek influence was strongly felt yet never quite overshadowing the Georgian scale and details. The general character of this work is noted in the flattish molding with considerable projection. As for the Greek, its characteristics are so easily obtainable that description is hardly necessary.

We have noted the axis of design in our chapter on planning. While this was not always considered in old work, as the character of the plan did not admit of it, yet there is no reason why we cannot frequently make use of it in our alterations or new work. A series of openings offer a vista which is often effective even if seen through the narrow confines of the old-time doorway, and if the vista culminates in an attractive fireplace or a bit of nature outside, the effect is complete. Naturally the units embracing the axis of design should have some slight mark

of preference over other similar units, some little added feature or embellishment. It is not necessary that the axis be on the center line of the room or rooms—a general impossibility with the "B" plan.

One naturally asks where the line is drawn between the early style, which in England was known as half-timber, and the Georgian which followed it. As is common with most changes of a peaceful nature, the process is rather one of transition than abrupt discarding and taking on. For general convenience we may consider the wainscot to be the ear-mark of the early style and the panel that of the following. Of course the two cross-lap, but we refer to their use in important places. The reign of the four Georges embraced the period from 1714 to 1830, yet the influence of Jones had been felt in England long before, and our own Georgian had advanced somewhat, prior to that period. The gambrel roof may be said to be a Georgian feature, yet it has been used with the overhang and the horizontal wainscoting.

Three modern problems of importance intrude themselves into our old-time atmosphere and refuse to be denied:—heating, plumbing and lighting. To a certain extent and for the strictly summer house, the fireplace suffices as a substitute for the former. But in a rigorous climate it leaves the week-end or delightful winter vacation a rather precarious undertaking, and half the charm of the country is garbed in a winter cloak.

If extra heat be required, there are several things to be considered and first is the system of supply. At the start we will eliminate steam as its offices are better supplied by hot water. This leaves us hot water and hot air. Hot water has the advantage of giving adequate heat and putting it where it belongs; it is a sure system if only it be kept going. It becomes objectionable in its liability to freeze if water is left in the system when not in use, and consequently the extra work required in preparation, prior to opening the establishment, even for a few days, and last, but not least, in its unsightly radiator, which has been designed with any other idea but that of harmonious occupation of the place assigned it.

Hot air is a healthful heat, delivering, as it does, warmed pure air. There is nothing to freeze; it can be left without extra work at the last moment without danger of damage and it can

be started without loss of time. Nor do its registers intrude themselves after the manner of radiators. Unfortunately, however, it is a great consumer of fuel; it requires extra head-room in the cellar; its second story pipes occupy much space and it does not always deliver, where it is wanted, as it is next to impossible to drive heat against the wind.

One may naturally raise the query as to stoves. We do not consider them advisable; the kitchen range is enough. If set up prior to closing the house, they must be oiled to prevent rusting. Does one require them for a couple of days, it takes just about that time to burn off the oil, then they must be oiled again and oil cannot be applied to a *hot* stove. The involved inconveniences are apparent to the housekeeper.

Returning to hot water:—we can do nothing to change the inconvenience of the system; being a system establishes its inelasticity. The only thing that can be tackled with any hope of success is the radiator. We do not think of any practical scheme for disguising it while in use—not at least in the old house. The second story pipes may be carried up in a partition, a closet, an unimportant room or in an imitation post made to balance the genuine article. But the natural location of the outlet is on the outer wall and near the corner if possible and unless one's post is very small and will admit of plausible enlarging, we are thwarted. In a masonry wall we sometimes have a chance—that is if we care to pay for it, but the danger of chilling the pipes often makes such an arrangement impractical. There is however, one chance which may serve to screen the radiator and pipes as well, and this lies in the furred partition of the frame house, where such treatment was resorted to in order to get the deep window-seat. This side being entirely of wood, one can arrange the panels regardless of dado height and in this incorporate double doors which may stand open while the heater is in operation. This would require a metal box to enclose the radiator, pitching outward at the top and covered on the back to retard the loss of heat. Whether it is advisable to attempt the screening of the radiator is a question. That it would perhaps hamper its operations to a certain extent seems probable. If used at all, it should be simple as it has no parallel in Colonial design unless one paints the



A New England mantel of simple but interesting design. The dado and door trim is also good. The Franklin stove is worth while as a chamber heater



A Dutch mantel from Long Island, N.Y., which, despite the flanking pilaster "puzzles," is crisp and effective as a design

radiator black and tries for a baluster effect. For the Classic Revival, one might employ the cast-iron window grill made for that style.

To screen an exposed radiator when not in use, we would suggest placing some article of furniture in front of it. If a secretary, the drawers might be shortened in the back, and thus one has a three-sided screen to enclose the objectionable feature. Or if one were to use a very low radiator, an imitation chest to be used as a seat may effect the same end.

With hot air there seems to be but one chance for it. Use it with a small house and place the heater in the direction of the prevailing winds, or get two heaters for a large house and thus reduce the horizontal run of pipe; it is in the latter that our difficulty lies.

Plumbing is a modern necessity. Although the well may be our source of water supply, having it piped to the house is almost a necessity. Perhaps one may desire a tank in the attic or perhaps it is a lift pump in the kitchen; in either case there is a saving over carrying by hand.

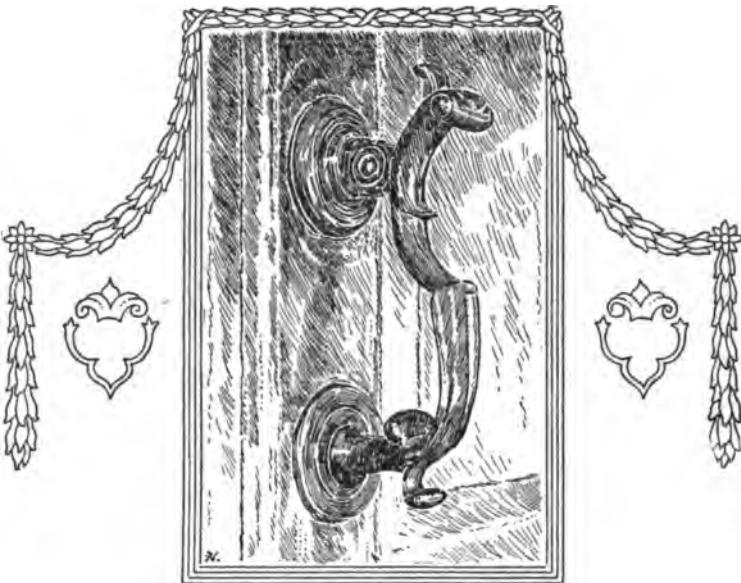
In locating the bathroom, one naturally bears in mind that the waste pipes *must be* located beneath it and that one does not care to see them in the parlor or hall. To avoid cutting much into the old construction—which by the way is the carpenters' and not the plumbers' job—it is best to lay the horizontal waste pipes on the old floor and furr up for a new floor with six-inch timbers, using a single floor on top. Ordinarily there will be sufficient headroom left, after deducting this. If the vent pipe occurs near a chimney there is perhaps a chance to carry a part of it, at least, up next the kitchen flue, where the warmth may induce a draft with good results.

While the up-to-date plumbing system may be essential, yet certain old methods have their value; the sanitary earth closet is not to be despised in cases where it is not advisable to install the plumbing system.

The lighting of the old house may be satisfactorily solved by the older methods of lamps or candles; one is nearer to the real thing in these. There is a certain convenience however in gas and electricity, which many demand, and ordinarily the latter is the medium, if a public plant exists at all. A comparatively

new gas system is that in which the lighting medium, in condensed form, is transported to any point in large metal bottles. These are attached to the house system and, as far as we know, give excellent results. There is of course the private plant, which may be designed to supply gas or electric current.

Although we shall speak at length on outlets in Chapter Six, it might be well to mention that the candle period is that which must be imitated if we would keep close to early traditional usage.



Chapter Five **HARDWARE**

If one be so fortunate as to find all the hardware of his old house intact, he can congratulate himself. Old things much used, wore out, and doors and windows were no exception. When these were discarded for the more up-to-date style, the hardware was apt to pass also, giving preference to the "modern" article. Hence we frequently note in the old house, a graded scale, a history of hardware, which sometimes starts with the latch string in the attic and the wooden hinges in the cellar, through the iron latches in the kitchen, the box surface lock in the best chamber to the late mortice lock with its metal knob, in the front parlor. Of these it may be only the last that is objectionable. A house may hold within itself much of improvement without being obnoxious so long as it does not extend too far into the present. Generally the best rooms were those improved; the old kitchen is apt to be nearer the original.

Now of course if your later doors are of good design there is no reason to discard them and consequently the hardware. The older inside doors were generally about seven-eighths of an

inch thick or less; the thinnest door on which a mortice lock was used was one inch. Some of these early mortice locks were very good, having commonly white porcelain or glass handles with comparatively simple brass in the more elaborate forms. The thin door was fitted with the latch and surface hinges, while the fixed-joint "butt" or hinge supported the thicker type. In the early paneled door the usual form of molding, at least in the East, was the quarter-round and this was a part of the door frame and not an independent piece as in later doors. The panels, too, were "raised" and their face flush with the face of the frame. The back of the door, which was distinctly a back, was plain: flat panels and no moldings. A later form in which were used mortice lock and butts, had the raised panel without the molding. Still later the door became double sided, had small inserted moldings and plain panels. These were commonly one inch and a quarter thick. With the early forms were used, first the latch and then the surface lock. This last was also used with thicker doors. The very earliest door was a "batten," in which the strap hinge extended its full width. Styles of course vary in different sections and the periods and fittings overlap each other more or less, but the foregoing is intended to show certain general relations.

Now naturally, if one find the early hardware lacking, the question arises as to where it may be procured. Often these things may be found in the junk-shop of a small city or in the catch-all box of farmers, or they may be procured by agreement from an old house which is past usefulness, or again from a tenanted house perhaps by the exchange of other hardware. Latches and surface hinges are frequently found in the cellar litter of houses destroyed by fire. And lastly, there are some forms among the modern reproductions, both in iron and brass.

There are two heads which claim our attention when choosing hardware for our refitting. These are art and practicability, and of these the latter is of prior importance. Practicability is the ground or frame on which artistic embellishment is based. A thing may be severely practical and still be artistic, or it may be elaborately artistic and yet practical. Often the very limitation necessary to its practicability gives most excellent results.

The most important member in connection with which hard-



Old lock with wooden box



Old-time brass box-lock



This is one type of the later latches in cast iron. Another variation has a pewter grip



Common surface hinge



This latch part has the lift or knob, which allows of the thumb lever being cut off short to avoid its catching things



Old Dutch type of knob-latch



Old wrought latch on a church door



Brass knocker
(C. L.)



Iron knocker
(C. L.)



Iron knocker
(C. L.)



Old brass knocker

द्वारा दर्शन की गई विभिन्न तरहों की दर्शक देखें।



Three wrought iron latch grips for exteriors



A cast iron knocker (C. L.)



Brass knocker on old lines



Common to North
and South



Brass knocker (C. L.)

ware is to be considered is the door, already mentioned. Roughly the door is a wooden panel closing an opening in a wall. It is swung on hinges and fitted with a contrivance to hold it shut. It is fitted into a rabbet at the top and sides and swings clear of a threshold at the bottom. Theoretically this is simple but practically it is different. The besetting sins opposed to the perfect working of the door lie in sagging—first of the door itself and second owing to loose hinges. Doors do not as a rule suggest from their design that they are hung on one side. There are some old outside doors which show braces in their construction and these are better and truer to the door principle than those of rectangular panels, as they suggest at once the fact that the door is hung, and that the door has been designed to meet the difficulty of sagging. As a matter of fact, the ordinary door of soft wood, if well made, suffers little in this respect; older doors in particular being thin and light as a rule. The principal difficulty lies in the pulling away of the upper hinge. Practically the door does not fit tightly into its rabbet but is allowed some play in order that it may work easily. It is this which permits it to sag and consequently to bind. The method used in hanging the door by the previous generation, was to allow the easy rolling of a quarter dollar in the joints when the door was closed. This sagging is of course limited when the door is shut and is less restricted when it is open. When in the latter case it becomes bad enough to interfere with the floor it is time to throw it away. The old-fashioned pinned door is less liable to pull apart than the more recent sort with glued joints. When the door itself begins to sag it must be eased with the plane at the points of friction, which at once gives it a chance to sag more; if it starts the hinges they must be reset.

In the half or Dutch doors where the leverage was considerable, the strap hinge was used and extended across the full width of the door. This form of strap hinge was "loose-joint": that is, the hinge-pin, which was driven into the door post, and which received the strap socket, allowed of the easy unhanging of the door. Its principle was somewhat at fault as the strain was not direct,—the hinge-pin receiving a side and not a direct strain. For this, and the further reason that it is next to impossible satisfactorily to readjust the hinge-pin, owing

to the considerable hole made in the door-post, it should not generally be used in modern work. When affixed to the old oaken door-post however it was fairly firm. The later and better form, the familiar surface hinge, was on the same principle as the strap hinge of to-day, which, while having the disadvantage of the fixed joint, admitted of better adjustment to the door-post; the same being effected by nails. The strap hinge was one form of the surface hinge, and as a door support, the best type we have had. We know of no perfect hinge, but this comes nearest to it; its objection lies in the fixed joint, which prevents the easy unhanging of the door in case of the shifting of the door-frame. There is however no reason why the old models cannot be altered to the loose-pin type with but little expense. But these pins should be of brass to avoid the rusting together of parts.

The next hinge which claimed the attention of our fore-fathers and which soon superseded the surface hinge, was the fixed-joint "butt." This being, when folded, but the thickness of the door, was practically concealed between the door jamb and the engaging rabbet, thus destroying an important principle of good art, which demanded in this case that the door have some visible means of support. This form of hinge has developed into the common form of to-day with but few changes. The first of these was making the two hinge plates detachable, so that the door could be readily unhung; these were called "loose-joint" butts. For heavy doors the "loose-pin" pattern was an extension of the loose-joint principle. Owing to the awkwardness of conditions attending the unhanging of the door a further alteration of the old type widened the hinge-plate so that the door when open, swung free of the casing, thus allowing one to secure a hold on the inner stile. Personally we do not care for this type of hinge. In the first place as already stated, it does not sufficiently suggest the hanging of the door; secondly its mode of attachment is poor. It depends for its hold upon the woodwork—on the resisting qualities of the wood fiber engaging the comparatively minute screw threads. If the strain exerted were uniform and direct upon the hinge-plate, there would be less chance of their loosening, but it is a *shifting* and *prying* strain.

Unless one has to do with the problem of the Greek Revival, the common forms of the surface hinge, which we have already mentioned, may be used anywhere, with the latch or surface lock, without committing any serious architectural offense. Not having made any very extended investigation of the matter, we are still under the impression that this type is not reproduced to any extent in modern hardware. It is a common custom to effect this feature in modern Colonial work with loose hinge-plates which are merely "ornaments" placed in proper juxtaposition to the active agent—the butt. This, while somewhat cheaper than the real thing, does not remedy the faults of the more modern article. For minor doors this treatment may answer, but we would suggest for heavy doors that, if one can procure good specimens of the old iron surface hinge with but little trouble and expense, the local blacksmith can tinker the upper hinge, so as to offset the prying strain on the upper hinge-plate. If your blacksmith cannot do this any reliable hardware manufacturer should. It is simply to incorporate a couple rabbet plate to keep the hinge in place while the door is open.

Old hardware was at first put on with wrought nails and the effect of the irregular heads was most interesting. Owing to the difficulty in removing them, they should be avoided by us for such purpose. As a substitute, a large, round-headed brass screw can be filed slightly to suggest irregular contour and flat hammer-planes, but care should be taken not to weaken the slot. This last can be filled with paint or putty without destroying its efficiency.

Sometimes red felt or leather was used under the nail-heads. With the unpainted brass screw this might be very interesting, but it should be used only in the best rooms and there throughout. Any color, not too dark, might replace the red.

In order that the door may be fastened, it must be hung and we will assume this task has been accomplished.

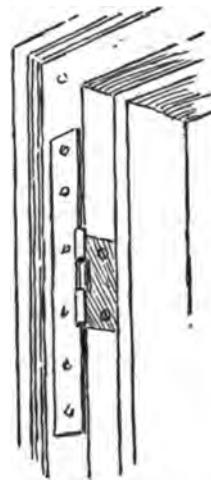


Fig. 12—The door portion of old surface hinge, showing the new rabbet or jamb plate, which is shaded

The latch string has come down the years and stands to-day, the emblem of friendly hospitality, but it has a real use; it suggests real latches of wood, which of course would only apply to the early forms and batten doors. In later days they

were used on some minor doors where the ever thoughtful economy regulated household affairs and we recall an elderly gentleman who remembers distinctly certain juvenile confinements in the ancestral attic, with the latch string carefully withdrawn from his side of the door. Its under-secretary, the wooden button, was used extensively and is still used on rough work. Formerly it was very interesting as jack-

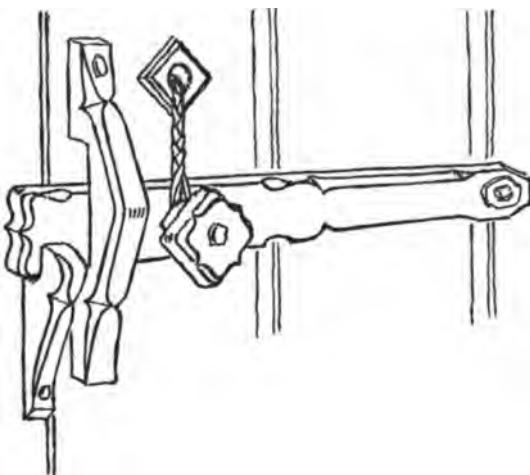


Fig. 18—The wooden latch is not difficult to make with a jack-knife. The catch in this case is made of the junction of two limbs with the trunk. A braided leather shoestring is better than rope.

knife handicraft—they could use jack-knives in those days, too. It left us metal descendants which are very useful for small closet doors, but as they do but half the work, being operated from one side only, they are easily disposed of. The little oval knobs, however, with circular button plates of brass are excellent in their way and with the brass surface hinge make effective trimmings for the small door.

It is the iron latch, however, that is of greater interest. Its earliest form, as far as we know, was that of roughly wrought metal in which the grip-plates were lanceolate or leaf-shaped; later comes the continuous and more rectangular plate, of cast metal.

The principle of the latch is too simple and well known to require description of its working parts, which, while direct are not close working. The more ornamental side of the latch is

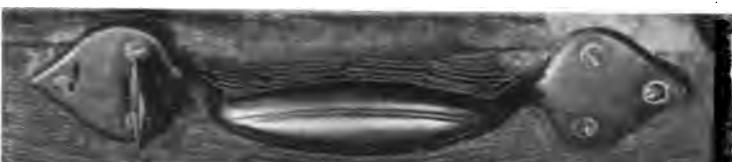
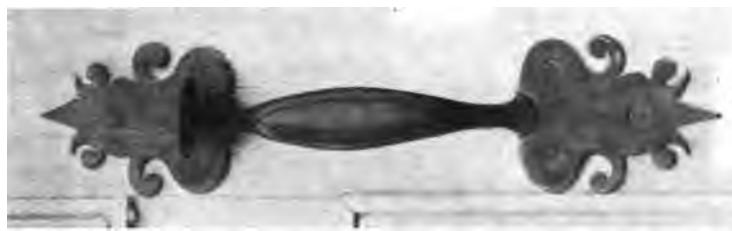
Brass latch
(C. L.)

Iron. (C. L.)

A cast iron "eagle" knocker

Brass. (C. L.)

Iron and bronze latch
(C. L.)





Brass knocker
(C. L.)



An excellent bronze knocker. South-
ern



Brass latch. (C. L.)



Brass knocker with crisp cutting



Brass knocker. Later type. (C. L.)

naturally, from its working, used on the side of the door opposite to the hinge. This consists of the handle and thumb-piece. The latch on the opposite side with its simple working parts is hardly less interesting. We hate to acknowledge it but the latch has one grave defect. We went into an old house with a friend a short time ago to pick up some information, and the friend glancing around asked the old lady what she had done with the latches. "Well," she answered, "yer know we had to take them all off; they tore our clothes so!" And when one comes to think of it, 'tis so; look at the projection of the latch beyond the door and the hook of a handle that lifts it. Then too, the wicked little latch-catch which is affixed to the door-post is a further, though lesser, agent of destruction; even in cheap modern latches there is some danger from the above mentioned parts. These deficiencies are such as would mostly annoy the female side of the establishment. A farmer who had a fine old latch on his front door volunteered the information that he was going to take if off because he could not "slam the door and hev it stay shet." The latch was not calculated to provide for such undue haste. On the whole it does not seem advisable to employ the early form of latch on much used interior doors without some modification. With the better examples the lift was a straight bit of iron projecting but slightly beyond the door. In this the curved end had generally been eliminated. This was a rather insufficient grip, but on the other hand its aggressiveness was not serious, and the button attached to the latch served the purpose, where it existed. If you do not have these, get brass ones put in by the general tinker; it's but the matter of drilling and heading. If you should wish to retain the curve of the lift, it should be continued until nearly striking the door or better, in a somewhat special form. Whatever you do, leave no square edges—round them off.

Later developments of the latch substituted the knob for the lift. In one form the knob was part of the latch, being centered with the pivot on which it turned. Another form introduced the knob below the latch; a turn of the former operating the latter by means of a lever. A small latch similar to this form, but differing in that the knob was placed directly on the latch as a lift, was used for cupboards. This of course was

fitted with no device to operate the latch from the inside. This reminds us of a very important consideration growing out of the above conditions and also those attending the use of the button. As an invariable rule, always fit a door to a closet, cupboard or recess, into which there is the slightest possibility that a human being can squeeze, with a device for opening it from the inside. In so doing not only awkward but perhaps fatal consequences may be avoided. Children will be children as long as the world shall last; it is best therefore not to provide any traps for them in your house.

As may be seen from the illustrations, there are considerable artistic possibilities with the exterior latch. With care, these are less liable to give trouble, particularly with the front door, considering the fact that the latch and catch have been attended to as suggested for the interior doors. There are many straight reproductions made from old models, also an adaptation in which the thumb piece springs the bolt of a modern mortise lock. This is fitted with a knob or another grip and thumb piece for the inside. Although a combination of principles, it is legitimate. There is perhaps with this double latch notion a solution of the latch problem as applied to new interior work; it requires however, a door thick enough to mortise. As for the practical part, there is nothing the matter with the workings of the modern latch. The old latch has often queer and ingenious methods of locking; commonly however, a wooden peg was used. Some of the old exterior latches were rather amusing in their combination of metals. Besides being wholly of iron, brass and bronze, there were iron and brass, iron and bronze and in one type an ornamental circlet of pewter was introduced around the center of the grip. This last was a common form of interior latch.

If there were any good box-locks, their use would perhaps be preferable to the latch in many cases, at least, for interior use. The common forms were of iron painted black and the term "box" amply described them. Some large examples were enormous and their keys too large for one's pocket. Had these been of brass they would have been interesting as bits of plain metal, but black iron on white seems altogether too strong a contrast. If these had perhaps been painted a dull red or ochre, or a bronze green, the effect might have been different. The

early form of box-lock had a wooden boxing and examples are often met with. They are more interesting as curiosities however, than of any practical value—the key being a great drawback. There is a form commonly seen on our coasting passenger steamers which may pass muster. But it should be remembered that the brass lock requires a brass hinge. The drop handles and escutcheons of some of the more ornamental forms were delightful in design, but the former seems hardly steady enough to compete with the absolute grip of the knob or latch. They were surely out of the way however, when not in use. Then too, they really belong to the more elaborate structure. With the French this style of lock is still used and by them has been made a thing of beauty; it seems a pity that it has not more popularity with us.

The mortise lock was first introduced in England along the latter part of the eighteenth century, and it is now our accepted type. While not being quite so true to the principles of good art as its predecessor, the box-lock—inasmuch as its working parts are entirely hidden—it is nevertheless a satisfactory and practical article. For interior doors the lock should be fitted with the usual spring latch and dead bolt; for exterior doors a heavier lock should be used, in which the aforementioned spring latch and dead bolt are supplemented by a spring bolt. This spring bolt is naturally duplicated on the inner vestibule door (if such exists) so that one key may be common to both.

The effective parts of the mortise locks are naturally such members as are not concealed in the door—as the knobs and escutcheons. These then are our ornamental possibilities and as the modern article offers several reproductions of the old models we may safely draw from them. The plain and the slightly molded round brass knobs are effective because, outside of their simple lines, the material of which they are made is attractive and decorative. The plain oval brass and octagonal glass knob affords a better grip than the round ones. For less important locations, the white porcelain knob may be used. Wooden knobs are also effective.

Plain escutcheons which include the knob and keyhole are perhaps better than the two isolated units. While this is more modern it suggests the lock better and somewhat after the manner of the old box-lock. The mortise lock, because of its method

of application, is seldom placed on the door where it naturally belongs—on the lock rail. This is owing to the fact that if so placed it would destroy the strength of the door at this point. The box-lock has not this difficulty.

The old form of door bolt was rectangular in section—not round. Some of the modern reproductions in iron, brass and bronze and called "Dutch" door bolts, are excellent and in harmony with the latches.

It is to be noted that comparative simplicity is the dominant note of the mass of Colonial work, and that often the tendency of the reproduction is to over-elaborate the model. One with any sense of observation will readily note such modern work as comes closest to the simplicity of the original. Much, however, is absolute replica. Even such modern units as the bell-pull, electric button and independent name plates may have the look of Colonial design. The latter, however, is generally cared for in certain types of knockers which we may note from the cuts. Right here it might be well to state that all modern necessities which do not properly belong with the style, should be kept as subdued as possible.

The knocker is a useful and decorative feature of Colonial hardware, and no Colonial house should be without at least one. It never fails in its duty, especially in a moderate sized house. Even if supplemented by the electric bell, it is still useful. The oldest knockers were of iron, and while crude were far from uninteresting in design. Even with the brass name plate they belonged with the other iron fittings or with such fittings combined with a limited amount of brass. Old ones are very apt to be somewhat rust-eaten and in purchasing them one should be careful that they are not too far gone.

Brass or bronze are undoubtedly better materials than iron, owing to the tendency of the latter to fill up with paint if not carefully done, thus destroying the design; also because of the aforesaid tendency to rust if not thus protected. With the older houses and iron hinges, iron is the thing however. The most common form of the knocker was that in which the hammer "straddled" the design, its pivots generally occupying a position at its extreme width. The other type, which did not perhaps admit of as much variation of design, had but one pivot. In

design it is generally the elaborate effort that is of the later period. Many brass reproductions are made, many of them good.

There is one rather important item in connection with the name plate and that is the lettering. The modern type of letter is very apt not to fit. If one secures a photograph from an old tombstone of about the period of the knocker, he will have a model that is worth following.

Old-fashioned windows were not originally hung with weights, although the lead weight may have been added later. The top sash was fixed and the lower raised as a dead weight. A catch at the side served to hold it at several heights and also acted as a lock. The raising of the window was not as laborious as might be supposed owing to the light weight of the sash. A modern "sash balance" adapted to the purpose may be had of the hardware dealer. It is a coil spring, the coil box of which is let in the stile after the manner of the modern pulley. Some sash slide sideways, but examples of these are not common. As the only hardware was this spring catch, there is little to be said of it. With modern weighted sash, both fastener and lifts should be of brass and simple. The simple common forms are not out of harmony with Colonial design. If you are inserting new windows in new walls you will probably use the weighted sash.

The old-fashioned window shutter antedated the blind. Its fastener which secured it in an open position and was used with the blind as well, was highly ornamental and of varying patterns. Although slightly more trouble to manipulate, it was sure and did not get out of order as many of our modern contrivances are apt to do. The hinges were of the strap pattern.

The old-time door-scraper offers delightful possibilities. It hangs onto the skirts of the hardware list; an outsider, but important. Being the work of the local blacksmith, it was in design like some of the best old outside iron latches, an expression of local art and hence often of individual style. Such scrapers were naturally affixed to the great stone step.

In the selection of your hardware, if using new, avoid on general principles the new "scheme." Never use a plated metal; it will not wear. Buy locks that have good steel working parts, aside from the purely artistic side. Remember that a really

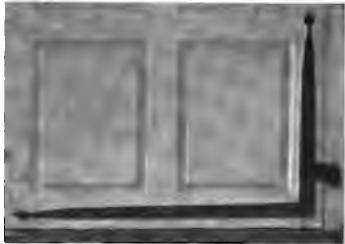
cheap article cannot be otherwise than cheap. Select hardware that fits.

One of the most important considerations relating to hardware is putting it in place, after having procured it. We will try to consider the fitness of it together with its placing. Our forefathers were very successful as a whole with the designing of units, but, in combining these units into a composition, they made as many failures as successes. Some of their blunders are so unwarranted as to be foolish. As a general thing they passed over the hinges with credit. Sometimes however, a specimen out of all proportion to the door necessitated the cutting away of part of the back-mold of the architrave with the natural effect of mutilation. Much of this may have been the fault of the owner's selection. It was however, with the adjustment of the latch that they fell most deplorably, and here again it was often the design of the door that caused the fall. With the inside problem there should be but little trouble as the fitting is comparatively small. Usually it was only necessary that the handle be set as near as possible to the center of the stile and the latch not too far from the middle of the rail, which is commonly called the lock-rail. Of course it is very important that this rail be at the proper height; this was a chance for another blunder, and in the earlier work they generally made it. It is with the outer door that the real trouble occurred; you have but to note old examples.

The place for the knocker is in the center of the door and at a convenient height for manipulation. If on a double door, it may balance the latch, or be placed above it on the same stile. It is important further that the style and shape of the knocker fits that of the door. When the door is divided by several horizontal rails, the knocker may approach a somewhat squat shape, and is perhaps best located at the juncture of rail and stile—if the same be feasible—or even a trifle above it. For doors with predominant vertical panels a more vertical knocker may be used. This last type can also be used on a many-paneled door by simply placing it on the stile rather than the intersection of stile and rail. The intermediate type may be used with any door; the result depends on its placing. The knocker should never be wide enough to interfere with or destroy the architectural lines of the door. It may fill the full width of the stile, but such is



An excellent brass knocker, the beauties of which are largely due to time and the elements. (C. L.)



This type of angle surface-hinge can be used for heavy outer doors with good results. It strengthens the door



An admirable cast-iron knocker of rather unusual form and design (C. L.)



A wrought-iron door scraper



Iron latch. (C. L.)

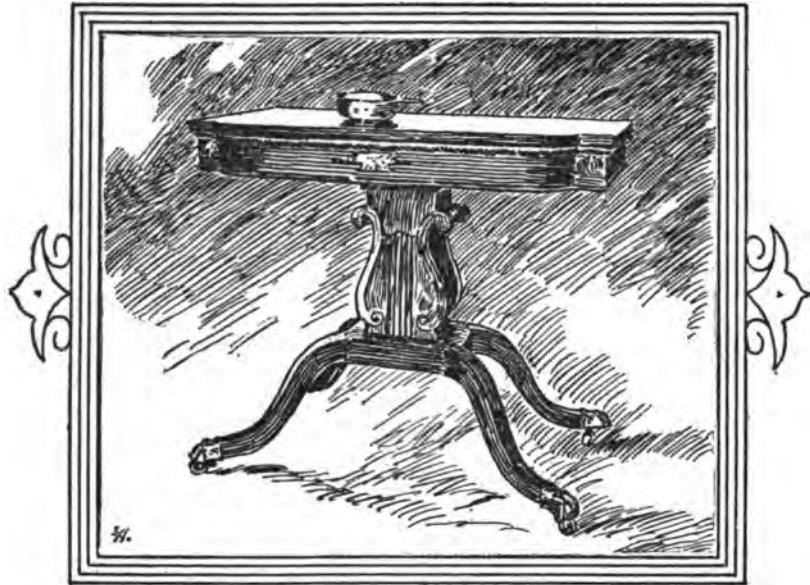


Wrought-iron scraper. (C. L.)



Examples of good reproductions in brass, of typical exterior latches and knockers

the limit. In this case the lines of the panel moldings still preserve the intention of the door design. It is often puzzling to determine just what knocker really belongs with the rest of the door fittings and it is most difficult to lay down rules which shall effectively govern such questions. It is largely one of common-sense, taste and a knowledge of things Colonial. It should be remembered, however, that such details are largely governed by the architectural balance of the unit to which they are applied. Perhaps after one has looked about a bit and studied the problem he may have in hand, there may come, as is often the case, a certain feeling for things Colonial—a certain unclassified sense which absorbs and solves without effort just such problems.



Chapter Six **FURNITURE**

UNDER the head of furniture we do not intend to limit ourselves to chairs, tables, etc., but shall consider such necessities as suggest themselves—perhaps with regret—after the carpenter has compromised and gone home with the greater part of our bank account.

Early plaster walls were whitewashed and frequently where lime was a rarity, a clay wash was used instead. We mention this more for the benefit of the primitive and simple type which may utilize a white or clay-colored calcimine and this effectively. The plain wall is an excellent background but one ought never to utilize a cartridge paper to get the effect. Whatever medium one employs, the dull surface should result. It should always be borne in mind that the wall surface is usually a background and as such should be simple.

Wall papers are comparatively new and if we remember rightly the picture paper was its first form. Miss Kate Sanborn, in her valuable and interesting volume, gives us a clear idea of its history and use. Personally we are not enthusiastic

over picture paper; it is only in its later forms, when brought into tone in an all-over repeated pattern, that it takes its place as a subservient wall decoration. The first types of an enormous scale seldom fitted their architectural setting; they happened, and happened badly. They were never truly a background for anything and their restfulness was about as soothing as a German band in one's cellar. However, they were a phase of Colonial details in which one is interested and which one likes to see—almost anywhere but in one's own house. If any attempt be made to use such a detail, it should be in a large hall devoid of further wall embellishment; and remember—the thing has to be lived with!

Some of the early all-over patterns were hideous in color, being in pure reds, blues, and yellows. Tone does not seem to have been a consideration of much of this work. The redeeming feature of the whole thing lies in the later efforts, of which we frequently see beautiful examples. Fortunately we may procure papers of modern manufacture, which often duplicate the old-time product. The details were usually small in scale and the units of design arranged in a diaper pattern and ordinarily interrupted by vertical bands or stripes. As the ceilings were low as a rule, this vertical emphasis served to accentuate the apparent height, and where the dado occurred this was all the more necessary. Naturalistic flowers were the common units of design, and these generally flourished as bouquets, as the contents of baskets, or other simple and unobtrusive motives.

Burlap and cartridge paper have no place in Colonial design and although we have seen the burlap used as a substitute for the wide board in the plain dado—with considerable effect—it is really more permissible in a modern "Colonial" than in the real thing. The same may be said of straw matting or like material, although they suggest the Oriental just enough to make their use plausible in rare cases. To be frank, the only substitute for the wide dado board is painted plaster and this should naturally project beyond the line of the plaster above. Of course if one can afford redwood and it seems desirable, it can be procured in considerable width.

It might be well to state here, that the history of the Colonies suggests considerable importation of "East India" goods and its

adapted uses, as well as its influence on design or articles of English manufacture. The eastern styles had therefore, more influence in the Colonial home than any other outside source.

Early window fabrics were hung on small wooden rods supported by crude wooden brackets, probably without curtain rings, which are mentioned later. The drop curtain was not then in use but its general form will still be remembered by some of us. This form had a slot and engaging trip in the rod for the fastening of the curtain, and the whole was hung on wooden brackets with a cord and tassel as a lifting agent.

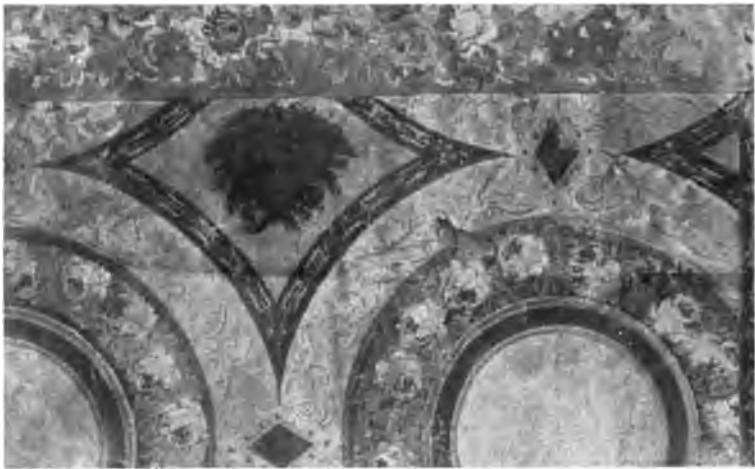
Right here we are going to take advantage of the reader and shirk our responsibility as well, by suggesting that he himself consult the old records, particularly the inventories, for information on household fittings and furniture. Taking a date somewhat later perhaps, than that of the building of your house, thus giving it time for the accumulation of comfortable furnishings, one may see what was considered the thing of the time and what, perhaps, was relegated to the chest or garret. Some of these old inventories are very explicit and exact.

Properly speaking, the door hanging should not be used; with the Colonists, the door was a thing to be closed. If this, however, be insisted on, it is best that the supporting rod should be as simple as possible, perhaps to the extent of using the wooden brackets. Oriental prints or other fabrics are plausible, yet one should be consistent and not over-load a simple house with too rich fabric. Stripes should run up and down as in wall paper and for the same reason.

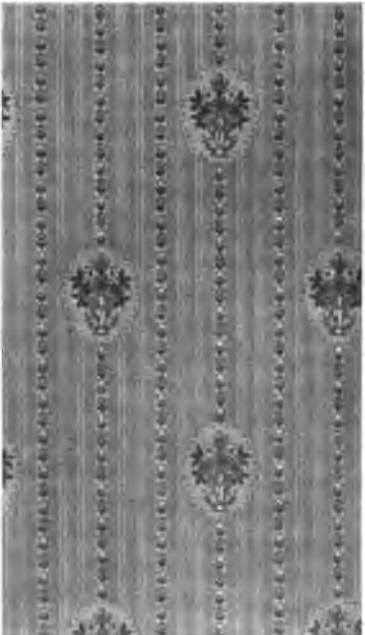
Ceilings should follow in character the walls, and where the latter are of plaster, there should be at least plaster (or its effect) between the beams. The all-wood effect properly belongs with the early wainscoted walls. Some of the more elaborate and later ceilings had stucco cornices, centerpieces and cornerpieces.

The subject of floors has already been touched upon; we would simply remind the reader that a hot oil or dull wax finish should be preferred to high gloss and varnish. The wax is naturally used with the later style. Early sanded floors are out of the question and imitation of them in paint impossible with the use of floor coverings. Ordinarily one would cover the floor with rugs, unless the carpet tradition be pleasing. The carpet,

THE PAPERHANGER'S HANDBOOK



An old wall paper which is probably more interesting as an antique than as an inspiration for modern treatment. The colors in the original are strong and crude

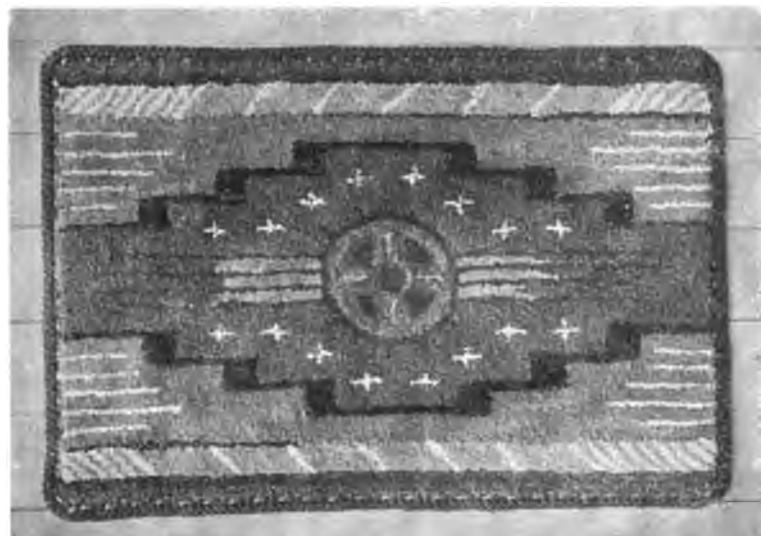


Two examples of modern papers treated in the Colonial manner. The first is the sort of "picture" paper one might live with; the second is effective in a low room

THE PAPERHANGER'S HANDBOOK



An old hooked rug with a border of rag braid. There is a charm in the simple, uncertain rendering of this type which would be hard for the trained draughtsman to imitate



A hooked rug designed by the author on Indian motives. This source offers much good inspiration if its translation be not too frankly Indian in line or color

however, belongs to the parlor and sleeping-rooms rather than to the living-room, which in olden times was the kitchen. If one has utilized this last for such purposes, he naturally keeps much of the old kitchen flavor, although modern ideas of comfort demand the introduction of details that effect a somewhat mixed, though not necessarily objectionable, whole. The rag carpet, which one naturally falls back upon, is still made in certain sections of the country and would probably be easy to get from the manufacturers of the rag rug, which has been on the market for several years. The one trouble with the latter, excellent in every other way, lies in its light color, causing it very quickly to display dirt.

People are too apt to omit the rug when making a list of Colonial furnishings, though as a matter of fact it is recorded at a very early date. We have already spoken of the rag rug and by this we refer to that made on a loom, carpet fashion. The braided rug is another thing and probably more familiar to most of us than the aforementioned loom product. They are not difficult to procure in the country, more especially new ones; and their shape, either round or elongated, fits them to many a space which for other shapes would prove awkward. Much taste may be displayed in the making of this form of rug, even if it is evolved from a single length of braided rags. We say single length because the spiral form was most common, but sometimes we find it made with joined ends—a series of rings. Often, too, we find a bit of carpet used as a center but this seems to have been a later notion and is surely not an improvement over the other form. The trouble with the usual attempts at design are that they are too variegated; too striped; too labored. Breadth of effect and quiet simplicity is often entirely sacrificed to longing for strong contrast.

Another rug floor covering is the hooked rug of rather later date than the braided article. A piece of strong burlap serves as the foundation, while the rag strips are hooked into it, pile fashion. The loops are then sheared, giving a crude carpet effect. Although there are several arts and crafts colonies making this style of rug, the general tendency is toward other effects in design, unlike the ordinary country ones, which, barring their woeful stumbling over animal motives, is

more creditable than otherwise. Perhaps this last, if we be allowed a choice, is more what we may wish, its sources being direct. Generally to save the edges, one or more braided strands are sewn about the outside. Sometimes this is carried further, giving a braided rug with a hooked center, but we have never seen an example that has been quite satisfactory.

The Oriental rug is ancient enough to have been used with the settlement of the country, but it is doubtful if such were the case, to any extent at least. At that early stage local prosperity was a thing of the future and it was this prosperity that made foreign importation possible. We are told that it was first used as a table cover, but this is not the proper place for it. That it belongs on the floor and there only in houses of a later date and substantial mien, is self-evident. It naturally does not belong in the living-room with the kitchen atmosphere, where everything bears the imprint of the homespun, but rather where the ivory-white of the walls, with mahogany furniture and Lowestoft china, requires its supplementary effort to complete a refined whole.

The Oriental cotton print makes an effective and inexpensive table covering as well as window hanging, although we may frequently find modern fabrics approximating the old designs, and as we generally have to fall back on the modern article, one should saturate himself with the spirit of the real thing and sally forth.

The general public is probably not aware that, in the early days, paint was such a rarity as to be practically non-existent. This of course refers to its application to buildings and not to signs. We have seen old doors and other interior finish, brown with the mellowness of age. Even when paint came into use there was much inside the house that was devoid of paint and this well down toward the Revolutionary war. While the great kitchen and pantry with perhaps the lean-to shed were brown as a nut; the front of the house was resplendent in white, and while the kitchen side of the door rejoiced in its natural nakedness, the reverse side had hidden its grain under an artificial coat.

This later woodwork was naturally pine while that of the earlier, or wainscot, was of oak. In our reclamation, it may be

that oak or local pine are not obtainable in the desired width and if so, perhaps cypress or western pine, fir or redwood may be used as a substitute. Of course stain and dead finish will probably be required. There is a chance here, surely, to gain effects not usually attempted. Naturally one would not care to tear off good finish to effect such ends, because the old kitchen (the room we have all had our eyes on) was as a rule eventually painted. In some cases it might be possible to remove the paint by burning, if care be used, but of course the surface of the wood should not be disturbed or marred—a difficult operation. We have made a point of all this, because, while there is a chance one may strike the unpainted thing, there is also the possibility of the new living-room with the earmarks of the kitchen.

While the unpainted interior may last indefinitely, the exterior, being exposed to the weather which hastened its deterioration, was probably to receive paint. If one is desirous of retaining the weathered effect it can be done with creosote stain, with a later application of hot oil. The oiling should be renewed at intervals the same as painting. The stain should not be too dark in the first place as the wood is apt to darken with age. Whatever the result, it is better to go slowly. There is no inconsistency in a painted exterior with an unpainted interior, only if one would come within the line of safety, it is best to use a dull red paint (Indian Red) for interiors.

While we are on the subject of paint, it might be well to speak a word on the subject of color. We all know that a house painted white appears larger than if done in any other color, but do we all understand that red and yellow are positive, while blue is a retiring color? Green and purple hold flexible positions which depend on the amount of predominance of the positive or retiring color used in their composition. White is naturally more positive than either pale blue, green or black gray.

Now, as in our interior color plays an important part, we are bound to consider it and consider it well. The placing of our wall planes may be determined by its aid; a small room made to appear larger, a larger one smaller. The plaster wall is naturally on a plane slightly back of our dado and other finish; therefore if the latter be white, the wall tone should be of a slightly darker note and of a predominant color that re-

cedes rather than advances. Naturally, if our wall tint be retiring, it should not be too much in contrast to our finish; if it be much darker it requires the touch of positive colors to bring it forward.

By such means we are able to make our ceiling higher or lower and to prevent our floors flying up and hitting us in the face; howling red is not a good floor color anyway.

Old unpainted wood has its own color, and other adjacent surfaces must be brought into line with it. Kitchen walls of course must be plain, for wall paper and the kitchen are strangers. In speaking of the kitchen, we mean the old-time one which we may have appropriated for a living-room.

As we have already stated, the several enclosing planes of a room should be considered as backgrounds for embellishments. Therefore the furniture, hangings, rugs and the like should be stronger in tone but harmonious, as it is against all of these that the lamps, china, clocks, and bric-a-brac find their backing. Harmony, the key-note to successful decoration, is to be found in color as well as line.

Furniture generally suggests the antique and the collector, and while we would hardly discourage the gentle art of getting fleeced, we would state that much may be procured in replica that will probably save expense in the end. Our best furniture dealers carry at times much that is decent in design, and if one is familiar with the styles, one might do much worse than to investigate. New furniture has the advantage of having its life before it. Then too, there are many who manufacture handicraft styles and sell direct. Their notices are constantly seen in the various "house" papers. Some even sell the goods in an unfinished state, so that one may color to match conditions, but here we must use caution in choosing our colors, as only such as suggests old-time material, whether new or weathered, should be used. Much of this sort of product is very like that used in the early kitchens:—the wood settle, the high straight-backed chair, the Windsor and the ancient types of rocker. As to the rocking-chair, a caution: be sure to get the old form; many types have the modern rockers and more than likely the type never had rockers at all. The old-time rocker was short and dignified; one had to be very dignified to use it without getting

an upset. In order to check this tendency to topple over, we have tried rubber on the ends of the rockers—such rubbers as the plumber uses on the stool cover. This scheme has proved effective; it holds the center of gravity.

The mass of early furniture was extremely simple and crude. If one ever gets within easy distance of Old Salem, one can gather much valuable information by visiting the Essex Institute. This institution has recently purchased an old house of the type prior to 1700 and is furnishing the same in the manner of the times; it is really worth one's while. We may mention also the "House of Seven Gables," likewise recently restored.

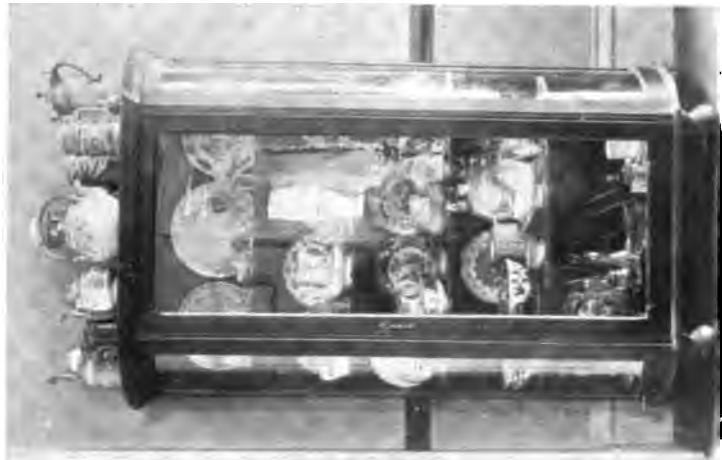
There has been so much written on old furniture that one should get a fairly good idea of the subject by taking notes from the mass of material. Old inventories help us greatly here in giving the list of plausibilities. We find that oak was the common early wood, much of the furniture brought from the other side being of this material. Besides this they had black and white walnut, cherry, and in fact most anything that worked easily. It is well to bear in mind that mahogany was not used for the making of furniture to any extent until toward the middle of the eighteenth century, at which time tools were perfected in England for its more successful handling. It is found, however, in small scattered quantities, prior to 1700 and slowly grew in favor after this date. The Boston fire of 1760 gives us many inventories in which mahogany lumber is recorded, yet its quantity was but small in comparison to other woods. The New England cabinet-maker and the amateur have produced much furniture, particularly of a simpler sort. They are even said to have sold it into the other Colonies, which seems probable.

Old inventories were generally explicit in declaring goods as old or up-to-date; it was every man's dream to keep abreast of the times. It is undoubtedly true that much "old" furniture was destroyed by our forefathers to make way for the advance of fashion.

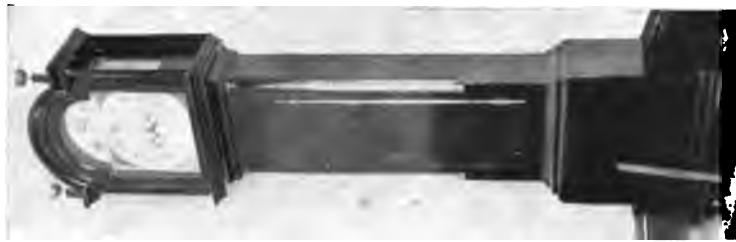
The question naturally arising after one has familiarized oneself with the styles and periods is: what can we, with propriety, put in our house? Let us reason this out together; it is not difficult. The early stages—supposing we take the chair

as a key—were stiff and straight backed; their relaxation occurs gradually at first, increasing to our own time. Naturally one would not care for the “milking” stool of the first settlers, so this may be discarded. The form or bench might go perhaps as a dining-room feature in connection with the simple crude and straight-backed chairs and the plain Tudor table. One may perhaps find some forms of “mission” in the new, which with some little alteration, like chamfering, will come rather close to the furniture of the period. For other than such purpose, “mission” furniture is entirely unfit. While the straight-back chair may serve in moderation for other rooms of the house, one really needs some chairs that offer comfort. Again there may be a possibility to a certain extent in the “mission” but one will probably have to fall back on early rocker forms and crude “Windsor” types. Upholstery should be avoided; the cushion if you will, but by no means the stuffed sort. Besides all this, there is the delightful oak furniture of the Elizabethan; nor is there any real danger from it, even though it may be a castle’s plunder in a plowman’s hut. One thing the Colonist had reverence for was the heirloom; though his own cast-offs were valueless, this was sacred. So if there be examples of a date prior to the fixed date of your house, there is no harm. The fixed date is one which approximates the last apparent development, regardless of the date of the building. We have no authority for the term “fixed date”; it might be anything else. As a matter of fact it is much in the position of Mrs. Wiggs’ duck—we’ve “just named it.” Every condition must have a handle to swing by; ours has just grown. To get back to our subject:—the danger from inconsistency lies not so much in our getting back of our fixed date, as from getting ahead of it; the masterpieces of Chippendale do not belong in a pre-Georgian interior.

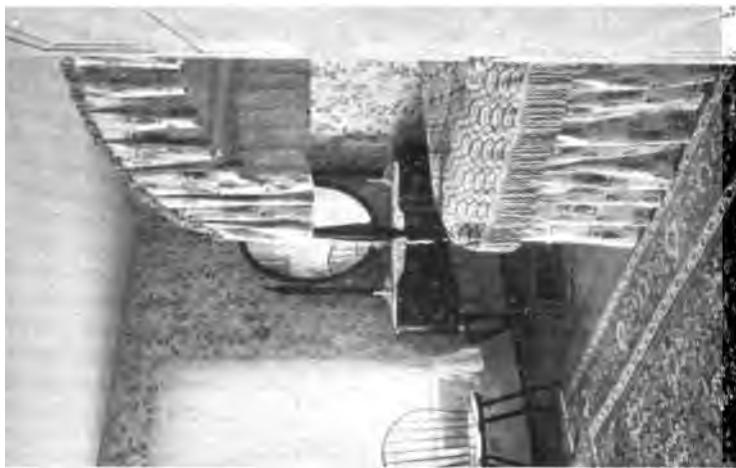
The early period is the most difficult of adaptation to modern conditions, and fortunately or unfortunately there are very few of us who will be called upon to do it. Perhaps we might divide our time into four periods as a matter of convenience. The first or pre-Georgian, prior to 1700—straight-back, and crude, with smatterings of the Elizabethan, perhaps a little crude Windsor; early Georgian, 1700 to 1750—lighter straight-back, more turning, Windsor and some Dutch influence;



A modern, inexpensive case based on old lines,



A Colonial clock of walnut with brass trimmings



A glimpse of the bedroom, showing the four-poster bed and dressing case. The latter needs a chair

Two old mirrors whose eagle emblems show them to be later than the Revolution. The first has a gilt in-frame with an out-frame of mahogany veneer. The second is all gilt and is supported on the common brass rests



Two old mirrors whose eagle emblems show them to be later than the Revolution. The first has a gilt in-frame with an out-frame of mahogany veneer. The second is all gilt and is supported on the common brass rests



An old-time lantern which suggests that, with other types, we have some good precedents for the modern drop-light



Inlaid lyre hat-tree and umbrella rack; also a tip table. The tree is adapted to the small front hall

middle Georgian, 1750 to 1800—Chippendale and others, mahogany period; later Georgian, 1800 to 1830—same as the previous period, some Empire or if in Greek Revival, Empire and other Classic motives. This of course is not absolute and there is much overlapping. However, it gives us a basis to work on, and our history of furniture should help us to pull things into shape.

We have already touched on the possibilities in connection with furniture stores; we might go farther and include the department store. There are also to be found occasionally in the suburbs the cabinet-maker and general repairer who deals in old furniture as well. The point here is not with the old furniture, however, but the reproduction made during slack times from such old examples as may have been collected. These are frequently careful copies, similar in construction and made from old and seasoned wood picked up with the old furniture. These copies are as good in every way as the original for all practical purposes, and as cheap in the end, unless one has unusual luck with an unusually well conditioned original.

Returning to the department store:—we secured some few years ago at a clearing of stock, two mahogany rush-bottom chairs for fifteen dollars. One was a well known Dutch model and the other a common English translation. From another similar store we procured an oak gate-legged table in true style, and at a normal figure. There is surely a chance here for one who knows what he is buying. Unless your original happens to have been in the family, there is much to be said for the reproduction. It will stand usage at least, whether your original will or not.

We mentioned in an early chapter in connection with the axis of design, the possibility of using a heavy and important piece of furniture to emphasize a terminal in this line, provided there existed no plausible architectural excuse for effecting this end. We repeat this suggestion, therefore, believing it to be often a great help in securing a balance and repose where lesser details are apt to be shifting continually. Frequently the fireplace has no plausible opposition to carry its center across the room. In such cases the cabinet or secretary may serve the purpose well.

Iron furnished the material for the first fireplace fixtures. Even later when the Colonists had become well-to-do and could afford brass, the iron fixture still had its popularity, extending on into the period of cast metal. Thus we see the cast-iron fire-dog or andiron, often very creditable in design and in thorough harmony with the cast-iron fire-frame it is intended to embellish. The blacksmith, who made our nails and spikes, also furnished our fireplace, and many of his kind to-day will make a creditable showing with this sort of work. If one has not an old model to go by, a drawing made with wax-crayon on tin or iron will make absolute comparison possible between the draft and the progressing article.

The size of the fire-dog in relation to the fireplace opening is a question which only the eye can settle in the case at hand. We are frequently tortured with the sight of the diminutive specimen, entirely lost in the vastness of a decent sized fireplace. As the fire-dog is made in many shapes; is chunky or slim, delicate or brutal, it would be folly to lay down definite rules for its height in relation to that of the fireplace opening. We may suggest, however, that a slim style may be from two-thirds to three-quarters and a chunky pattern from one-half to three-fifths—all of which depends on its design and character. We can assert one thing without fear of blunder and that is, while we may choose the large fire-dog for the large fireplace and small for the small, yet the scale of details should *never* conflict with those of the mantel trim or the general scale of the fire-opening. In other words, never use a design with small and delicate details as an accessory to a large fireplace.

Another rather important article not generally considered as a fireplace accessory, is the warming-pan and yet we occasionally see it standing beside the mantel, as an ornament merely. The leather thong frequently found attached to its handle suggests its suspension from a peg beside the bellows. Besides its decorative side, that of its intended utility is not to be despised. Passed between the sheets, filled with a few glowing coals, it will remove both damp and chill and render the bed something besides a necessary cold plunge. In this we speak not from hearsay, but from experience.

Modern adaptation of the Colonial in dealing with the din-

ing-room, has stopped the wainscot (paneled or unpaneled) just short of the ceiling and, by the introduction of an enlarged dado cap, has found room for the accommodation of china—purely a decorative feature. We make no exception to this as an adaptation, but it is not authentic and not to be considered in our problem. Our forefathers put such things where they could be reached, first of all; that they *happened* to be decorative was not *their* fault. Instead of being generally scattered they were collected on shelves singly or in open cupboard form, and the plate shelf was more than likely to have a rack or strip across the front. Any old house which, being historical, has been furnished in the old style and thus made a museum for the antique, will probably offer some suggestions of this sort. If, however, one desires an independent shelf to be affixed to the wainscot, it should be planted frankly on it—an acknowledged after-thought. Unless, perhaps, one is *restoring* the wainscot, in which case the paneled form may have a rail provided. True wainscot, as we all know, runs to the ceiling.

As the earmark of antiquity is denoted by the general scarcity of metal work, there is much chance for crude forms in wood. Shelf brackets and the like should be made; also door buttons and pulls. If one is handy with tools, there is a chance for him here, but be sure to let the marks of the jack-knife show; do not sand-paper it all out.

Having supplied a place for our little vanity in old china, pewter and glass, the next thing is to display it. We may add that such should rarely be done on the mantel. Perhaps it is very like suggesting that one sleeps after retiring, but we must inflict the advice. Choose good specimens and not too many and let their arrangement be a composition, in which the placing is neither too crowded nor too open. Remember, that as one goes back, the average condition becomes simpler and simpler; there were very few utensils in the oldest houses.

Sets of china are hard to pick up and awkward to *display* afterwards, unless confined to the buffet. Isolated pieces are more plentiful and far more satisfactory in a composition as they offer diversity in size, color and form. Although wood and pewter were used in the early period, they should be kept separate in display. If they do not express different conditions of

life, they at least denote the best and the every-day bonnet. China and glass may associate if necessary, but if one has enough of either to make a separate group, it is best, owing to the different background required for each. Brass utensils are generally foreign in use to china and consequently stand apart.

So much for the display—for utility, one hardly cares to risk even old Staffordshire of the commonest sort to the tender mercies of the domestic. Even if careful, she can hardly have the interest in its welfare that we have. If one can handle this personally, let it be *old* china by all means, but rare pieces ought never to be exposed even to the bare possibility of accidents.

Fortunately for this problem, as with the furniture, designers have discovered sometime since, that old shapes and patterns could hold their own with any they could devise. Hence there is rather a liberal field to select from in the way of replica. Of course there is the familiar Willow pattern, also the onion pattern. Many old factories or their successors are reproducing popular old-time designs. One may get excellent Minton, if one can stand the price, and we remember a cheaper reproduction of an early Minton pattern, strong in Oriental suggestions, which calls up visions of powdered coiffure, full skirts and dainty slippers.

As the light is necessarily a part of the table accessories, we will speak of it here. There is nothing softer or more restful than candle light. For the dining-table the candelabra or even a group of candlesticks do excellent service. Old brasses are not so difficult to get and even the reproduction is not exorbitant. For cheaper types, the Colonial glass offers good forms. For general lighting and reading there is the glass lamp, which may be attached to either gas or electricity in one way or another. Of course this is a necessary evil, not easily disposed of by ignoring it. Perhaps the old-time lantern, if suspended and fitted with modern lights might serve to preserve a little of the flavor of the older days. In any event it is the candle or the early lamp that we must base our designs on; it is manifestly impossible to follow the suggestions of the pitch knots of primitive methods.

As a wall or table fixture, the old brass candlestick may settle the problem. If the former, let it be set on a shelf or on



A New England chair of pine, with
rush seat and of Dutch influence



A modern Mahogany chair, modelled
on New York Dutch lines



A common and interesting form of
the Chippendale. Such chairs have
refinement



Mahogany chair of Empire influence.
This and the one above were from a
department store



The only criticism on the above simple and uncrowded arrangements would be on the conflict in styles of table and chairs in the upper picture. Disconnected units may vary; these should harmonize

the mantel. Not only should its location be here, but it should be fastened and thus substitute for the usual bracket or chandelier. This may effect our ends if we do not insist on the electric bulb or gas mantel. The former may be tolerated in the raw but if a shade is required or the mantel used, it is best to lapse into the lamp period, using the old glass lamp standard with the spherical globe.

In early days the picture was a rarity; the simpler dwelling knew it not. The sampler was about the only thing among the masses and was given the place of honor over the mantel. It is extremely interesting, and one handy with the needle can readily copy or originate something of the sort or they can often-times be bought at arts and crafts shops. Later comes the silhouette, which one occasionally sees rejuvenated at fairs and summer places of amusement. Frequently too, these artists are quite successful in catching a profile.

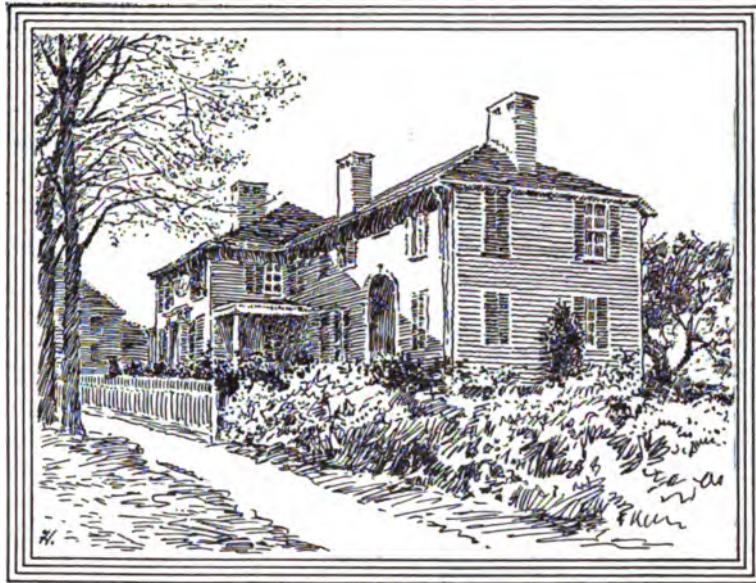
What one may really rely on is the print; first the uncolored and later the colored. The first we naturally connect with Hogarth, who began to produce about 1736. Then come the colored prints, English and French. These cover a considerable range—religious, sporting, dainty French society, etc. The engraving is a thing apart and could stand very well alone; it is used however, as a key plate for the application of color, which is often done by hand. Fortunately we can buy these of a modern manufacture, which are perhaps as effective as the old specimens.

The hanging of pictures was first accomplished with the aid of a wooden peg, nail or hook; the picture molding and cord was not then in the field. Personally we do not care for the looks of picture cord or wire. There is a brass wall hook which can be procured in several sizes, over which the screw eyes in the back of the frame are hung. For heavy pictures the strong screw hook may be used and the weight supported by the rests one commonly sees used for old mirrors. As the majority of old houses are fairly low-studded, the picture can be hung flat or nearly so.

The arrangement of pictures should be carefully thought out beforehand to avoid the making of unnecessary holes. An important picture may serve to assist the axis of design or to



balance some other important detail or one of its kind. Colonial design frequently seeks for balance and symmetry, but such should never be too *set*. Smaller pictures may be grouped about a larger one. The best scheme is to locate the important units and let the lesser play up to them with more or less looseness, as the general problem may seem to dictate.



Chapter Seven **A PRACTICAL EXAMPLE**

WHEN one has become the possessor of an old house he is much in the position of a man who is giving an illustrated lecture for the first time, with the difference however, that he is a double personality; for while he is delivering his lecture, he is at the same time by no means an unimportant member of his audience. Nor do he and his outside audience meet on equal terms; they will be ever changing and passing on, forgot; he cannot pass on—cannot forget.

He would quite naturally impress the outside world, but in this he must first have felt that impression and lastly must live with it. And it is better that such living should be peaceful and the associations one of pleasure, rather than a forced and irritable companionship. Therefore one must consider the thing seriously.

Instead of laying down rules to illustrate one method of handling the following problem, we will try to make the method clear in the manner of our working.

To begin with, in the original, as near as we can get at it, bared of all the good and bad conditions of later dates (mostly bad), we have a six-room plan in two stories, which stories were about 7 ft. 8 in. and 7 ft. 2 in. respectively. The arrangement is one of the early forms used in the Connecticut Valley, but the house itself is not as old as its plan. It has however, a good solid oak frame, reasonably sound and fairly level.

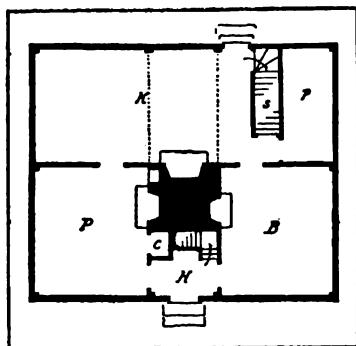


Fig. 14—The old plan as it existed before alteration, showing the arrangement of early days

were of brick laid up in lime mortar, with brown freestone caps and hearths. The caps were in good order but the hearths were cracked and much the worse for fire; the whole chimney was unsafe and had been unused for some time.

When the house came into our hands there was a long telescopic addition of one and one-half stories, attached to the rear—in width, from the corner of the pantry to the post beyond the door. The first unit was evidently a new kitchen; the next and the next, unclassified and all of different dates. Had its outreach not been stopped by a fairly large apple tree, it might have gone on and on into the river. A covered piazza extending around four sides of the house was of that period when the decadent wooden "Gothic" ran riot and the jig-saw was a thing to be played with rather than used. Then too, the windows on the front and ends had been narrowed for window weights and also cut down to the floor with the obvious purpose of affording access to the piazza, which feat was easy, if one

The outer covering is of double grooved siding, which when fitted together shows an over-lap as in common clapboarding. This was laid directly on the frame without boarding—an old method, but the old-time birch wall-filling does not occur. There was no gutter to the roof, which is hipped and of about a thirty-degree pitch. The old chimney was built largely of stone laid in clay mud (an old custom) with occasional interjected and apparently meaningless pieces of oak timber. The visible portions of the fireplaces



Before alteration, this "gem" of a piazza nearly girdled the house, cutting out direct sunlight from all the lower rooms. Otherwise the block of the structure had not been tampered with to any extent



The substitute for the old piazza was a bit more in keeping with the period of the house. The "kick" to the roof of the "outdoor" room is a localism probably borrowed from the Dutch



Front of the altered house from the street. There has been no effort to make a distinguished thing; rather a restful habitation and home



A view from the water side and rear. The open-air room commands a full sweep of the river and makes a good sun-parlor, if desired

cared to crawl. In its origin our house was surely the work of the craftsman.

The first problem was the rebuilding of the old chimney, which was torn down to the level of the first floor. In the living-room or old kitchen, the fireplace was reduced from five feet to four feet in width because the original was much too close to the woodwork to suit our fancy. All masonry was kept two inches from the wood work and air chambers were built in the flanking jambs as an extra precaution. In the parlors we had a three-foot opening and in the room marked "B" (which was probably either a bedroom or office) we got a two and one-half foot opening. A light segmental arch was turned back of the brick facing above the caps to relieve them of what little weight might occur above. The old caps were re-dressed and reset, but cut out slightly at the back to accommodate the Murdock throat and damper. For the hearth concrete was used, but while it answered very well for the smaller openings, the larger one, owing to some imperfection or perhaps from the excessive heat, crumbled slightly in front of the fire and so we were obliged to introduce a raised hearth of fire-brick, a possibility we had fortunately foreseen. This raised hearth has at least one practical advantage outside of its natural properties; it forms a definite line of demarcation between the fireplace and the room and hence there is a limit set to the loose ashes. It is hardly necessary to state that we used tile flue linings; their advantage is evident.

It will be noticed from the illustrations that black bricks have been introduced into the facing of the large fireplace as well as into the topping out of the chimneys. Why did we use this distinctively Southern feature? We found authority for it in the basement of an old house not two miles distant—very simple it is true, yet existing. One naturally wonders what inspired them. To get these we were obliged to dip hot brick in hot tar; the result was a dead and lusterless black.

It was first intended by the owner simply to rebuild the chimney and let the rest hang over for a while, but a careful inspection discovered so much to be done to get the house into possible shape that it was decided not to waste time and money on temporary repairs. Therefore after patching the roof for

the winter we got at the problem of the new layout, that it might be ready in the spring, and as fast as anything definite could be decided upon for the carpenter, we let him have it to help the thing along.

As to the plan here shown, it is necessary to understand that modern requirements differ from those of old times and in introducing the piazza, for instance, we have made the house of a later date than it really is. As a visible feature and in order to avoid conflict, we have introduced a column which follows a certain local craftsman's crudeness, thus going back to the early types and methods of our original house.

It was decided at the start that the "telescope" and *fancy* piazza had better go. This left the original block of the house and a far simpler problem to contend with. As to utilizing

the old plan, it seemed best that the old kitchen should serve as a living-room—one of its original uses. This was away from the street, but the outlook up and down the river demanded it. Then too, the house was near the street and herein was another reason. The fairly sunny parlor was to be used as a

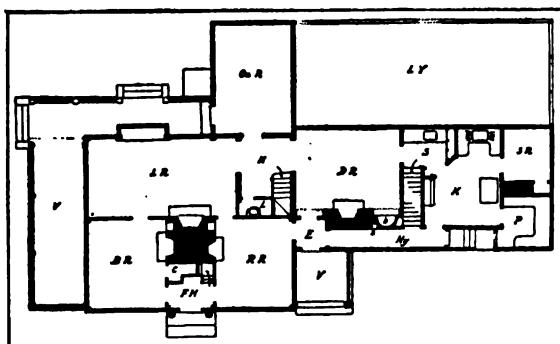
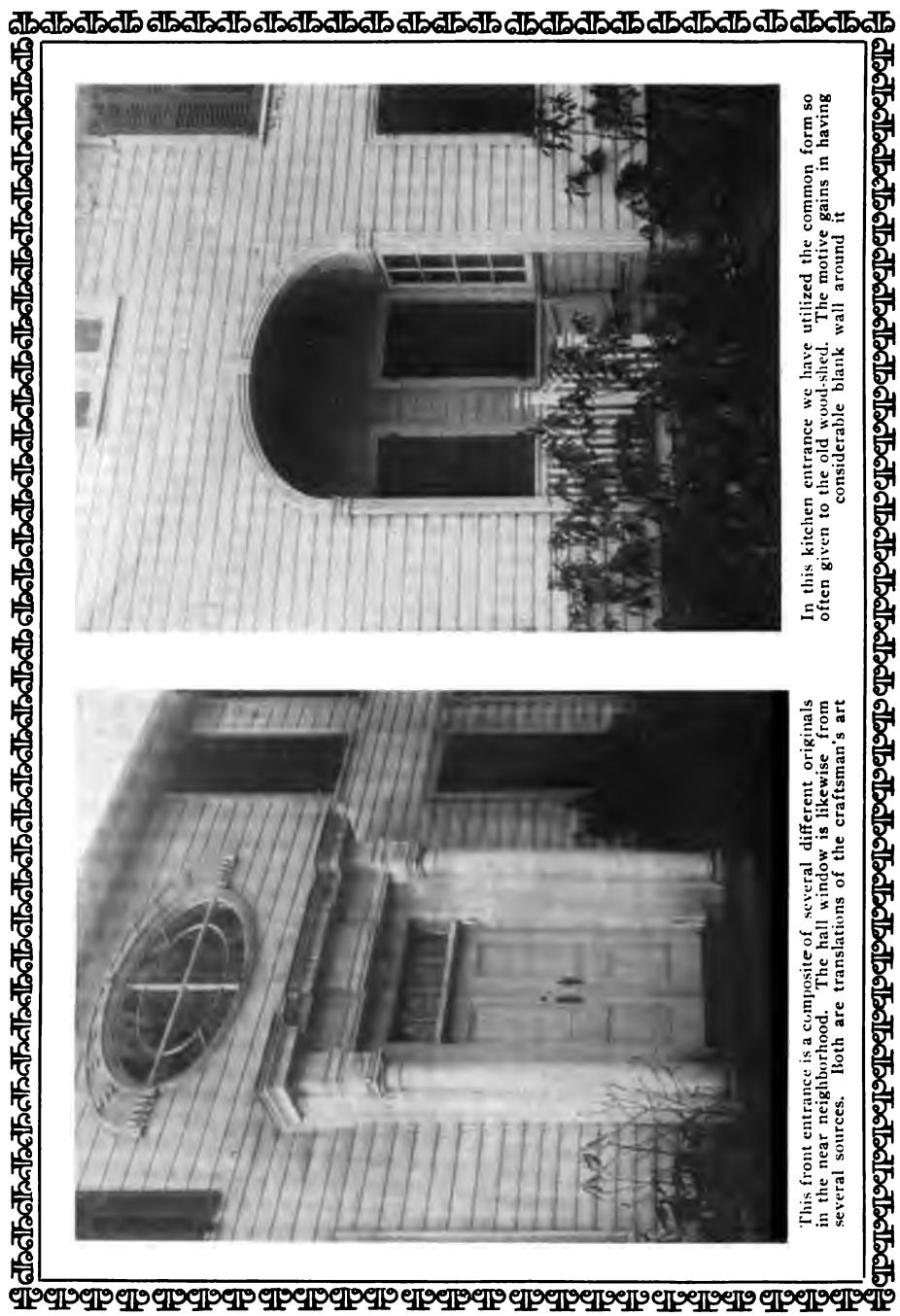


Fig. 15—Remodeled plan—first floor. Oa R, Open-air Room; E, Entry; V, Veranda; L, Lavatory; S, Stairs; S R., Servant's Room; b, Buffet; s, Standpipe; L Y., Laundry yard; R R., Reception room

sleeping-room for the older generation and the old bedroom as a reception-room. The old pantry plus the old back stairs were to afford space for the new main staircase, the old-time front stairs remaining as they were. While the old kitchen was ample as to size and relative placing to serve well the purpose of a living-room, yet its window area was inadequate. We therefore introduced the square bay in as simple a form as possible so as not to disturb the general simplicity of the exterior. As the bay was not a feature of this particular type in the original, care was taken to keep it simple and in line. The built-in seat suggested



This front entrance is a composite of several different originals in the near neighborhood. The hall window is likewise from several sources. Both are translations of the craftsman's art

In this kitchen entrance we have utilized the common form so often given to the old wood-shed. The motive gains in having considerable blank wall around it



The ornament was introduced into this reception room mantel only because of the unusual spacing of panels, which looked extremely bare and awkward without it



This side of the dining-room is of wood, in a very simple treatment. A round-headed door into the hallway balances the buffet motive in a like recess

itself naturally and by making a raised cover we gained stow-away room for papers, magazines and the like. There was one overhead cubby in the parlor; we replaced this and added another in the reception-room.

Perhaps the first impression one gets in comparing the original house and the addition, is that of the tail that wags the dog, but this problem is one of many similar, in which the house belonged in the family and still was not sufficient in size to meet new requirements. We have done what we could to emphasize the old house.

It will be noticed that the rear wall of the new ell does not correspond with the similar wall of the old house and on this account the eaves on this side are naturally lower in order to keep the roofing planes together. This was made necessary on account of the old windows in the reception room and guest chamber, which prevented our bringing the addition near the street. The position of these windows was very good and hardly worth while to disturb. We fancy that the better sort of old craftsman would have done much the same with this problem.

The open-air room, which replaces the removed kitchen addition, has sheathed walls and ceiling, but the floor is the same as in the rest of the house. The wooden walls give it a little more freedom, more the porch character, and as a matter of fact it is really, as its name suggests, as much of an open as a closed-in feature. The construction of the room is rather unusual; the sill being dropped below the floor timbers so that the lower sashes, which are weighted, may be dropped into pockets and hinged window-stools dropped back over them. The upper sashes are hinged and swing to the ceiling, and thus the whole window area can be utilized; in damp weather they are readily closed. Outside screens complete the utility.

The particular points of the plan may be readily seen. The kitchen end is merely a modern arrangement without regard to Colonial style. There is room enough and not too much. The cook has a sink and shelves out of the way of any passing traffic; her pantry is ample and well lighted; she is in reach of the trademan's door and can see readily who is at it; two windows on either side give cross ventilation while a register over the stove connects with a vent flue in the chimney, which is

warmed by the range flue. The kitchen dresser is handy for both cook and second girl and together they have a small room of their own with a good river view. There is room in the pantry for a small ice-chest which may be filled from the outside by opening the swing window and dropping an inclined platform.

The reception room is easily accessible from both the front and side doors, the latter of which is most used. The servants can answer the bell with but little intrusion on the rest of the house and from the side door see the visitor before opening the front door. There are, as there should be, two doors between the kitchen quarters and the rest of the house.

The basement is reached by stairs from the hallway in the new part, and at their foot is the outer door to the laundry yard. Owing to the sharp grade, full-sized windows were possible in the end and yard side, the stonework coming only to the height of the sills in the latter instance. The laundry occupies the end under the pantry, servants' room and the major part of the kitchen. Next to this and the outer door is a toilet. The coal bunkers are beside the wall under the hallway and entry, while the space below the dining-room is reserved for the future heater. The old cellar is poorly lighted and is used for

little more than a store room. Under the open-air room is a light area accessible both from the old cellarway and the laundry yard.

The second story has required more alteration of the old part than on the first floor; and with the single-chimney plan this

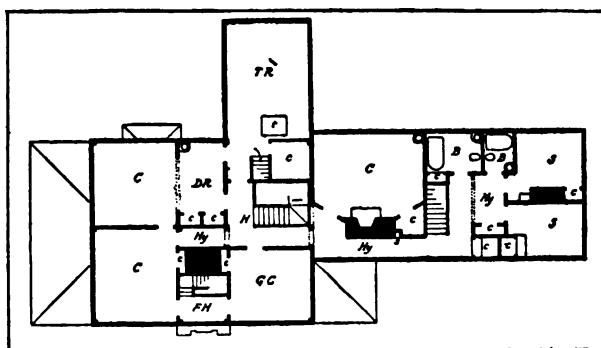


Fig. 16—Remodeled plan—second floor. C, Chamber; G C, Guest chamber; F H, Front hall; Hy, Hallway; D R, Dressing-room; B, Bath; C, Closet; S, Servant's Room; T R, Trunk room; T, Trapdoor.

is always the case. Our forefathers were content to go through one room to reach another; we, however, object to this.

The old chimney took up all the space as in the lower story, but we were obliged to rake it toward the old front stairs to gain the hallway to the front corner room. We also steal from the guest chamber to continue this to connect with the new part. In the original plan there were no fireplaces on the second floor and it was deemed best to leave them out in the alteration in favor of the small closets. We provided, however, three small flues for stove connection in the three chambers, in case of emergency. The small closets *are* small, but they are only for immediate use, the large closet off the trunk room offering plenty of stowaway room. The chamber over the old kitchen has been divided, partly to help our hall and also to get a dressing-room.

The new staircase is well lighted by borrowed light from the two windows in the long hallway. The staircase is centrally located and reaches the vital points of the second floor easily.

It will be seen from the plan that the servants are cut off from the rest of the house by a large flat and curtained arch. Within this section are the bedrooms, bath and ample closet room. There is one point which might have been bettered; the family bath is not centrally located as regards the chambers. Even if left as it is, an extra toilet would have been well placed in some handy part of the trunk room. The idea of its present location lay with the owner and the idea was to reduce the very considerable plumbing into one upright stack. Economically it is a success.

It will be noticed that there is a standpipe in the hallway of the new part. This is of two-inch galvanized pipe and extends from cellar to garret. It is fed from a reservoir on the hill above—the common water supply of the house. On the three floors proper, a fifty-foot linen hose hangs on a bracket rack, ready at all times for use. With this all parts of the interior can be reached. In the cellar the hose is one hundred feet in length to allow for out of doors use.

Having considered the plan as a plan let us consider the general finish and design. The building itself belongs to the middle of what is commonly called the Georgian period. Its style is extremely simple in both outline and detail. Its location on the map is about the middle of the state of Connecticut,

and on the Connecticut River. This last being an old-time highway, it was natural that there should be much intercourse between the various settlements bordering it, and hence one may naturally look for a great similarity in the style of building over this entire territory. We were fortunate in having, at the start, numerous photographs and some measured details of the period above mentioned; it saved our making a special expedition for them.

In looking up and down our little stretch of country one notices great similarity of design and detail and its examples, owing to the great waterway, are often scattered. In measuring details in our own little town we find that up to the later work our cornice moldings, for instance, are apparently from the same tool, regardless of dates. One old farmhouse, now burned, which was a survival of the third stage of development, and still retained the old "summer" beams and the wooden ceiling, had a cornice almost identical with one on a building which was not built until fifty years later. In it was to be found much of the Gothic influence and its original windows had slid sideways in a single sash, betwixt the girt and the dado cap, which last was identical with the window-stool. To such sources as these have we resorted to help us in our problem of reconstruction.

Let us take our interior first, bit by bit and see what was done with it. In the old part it was found necessary, in laying the new floor, to level up with furrings on top of the old floor; buildings will settle and get out of level. We used for our new floor best grade Southern pine, of narrow width. In the ell, on the second floor, we laid but a single floor in order to save every inch possible—there being considerable difference in the depth of the old oak floor beams and the shallowest we could contrive with our modern spruce beam. When the top of the window casings do not come too close to the ceiling it is best not to do this as it gets rather dirty and is apt to be scarred during the balance of the construction. As it was we waited until the masons were out of the way before we laid it and even then it had to be scraped. Judging from the way in which the ceiling cut into the tops of the casings on the first floor, and from the style of the glass, we judged that our original windows were not as high by one width of siding.

When the windows had been enlarged, it is probable that new doors were hung as well and at the same time new backboards put on to the casings. All this work was old, but it was not the original by any means, nor was there anything to show what the original might have been except the ancient front doors. However, our second-story doors and casings were far too good to abandon and we retained them with their design of four upright panels. In the kitchen and other working parts of the house the new doors were of cypress in a natural and dead finish. Elsewhere they were painted white. Brass, loose-pin butts were used throughout except when the door or its butt side was of natural wood, in which case a similar japanned butt was used. The old door knobs were all of white porcelain; we substituted octagonal glass on the lower story to go with the white paint and black to go with the natural wood. These last were also used on the second story, while with the white paint we used mahogany.

The one feature of the living-room is the fireplace; the seat in the bay is too simple to be so classed. Our brickwork has already been explained, but our modern embellishment is a bit more complicated. The architrave or form about the brick-work is after a similar motive in our (unfortunately destroyed) farmhouse. It has a few novel Gothic bumps in its makeup. The mantel itself is very close to the old doorcap of the farmhouse. This too differs from anything we have before seen and we are glad of it. But the over-mantel is not a Georgian feature, neither is it Elizabethan; it is a victim of circumstances. When the owner became possessed of the property there was an old rosewood piano with a few bits of very good inlay about it. This piano was an old friend: what should he do with it? As a piano it was hopeless, but the inlay—. Well, we thought it over for a moment and then determined upon the place above the mantel for it. It was perfectly natural that we put the piano cover over the mantel to get rid of it and preserve it at the same time. As it was not large enough to fit we framed it with a natural cypress frame which had the added advantage of making the transition to the white paint less abrupt and startling. Then too there was more space at the sides than at the top and bottom and we introduced a small ornament of dull gold tem-

pered with color. It will be noticed that the surmounting cap is a bit of the backboard of the door casings and further that it is *in line* with these members on either flank. This is a bit architectural, but there was no real good reason to do otherwise.

In our adjoining bedroom the old simple mantel was replaced. This had an architrave very similar to those of the door and window and below the shelf was a well proportioned dentil molding. In the reception-room the old mantel was also retained but as it had a cart-before-the-horse arrangement of panels in the frieze, we filled these with composition ornaments to control, but not to hide its oddity.

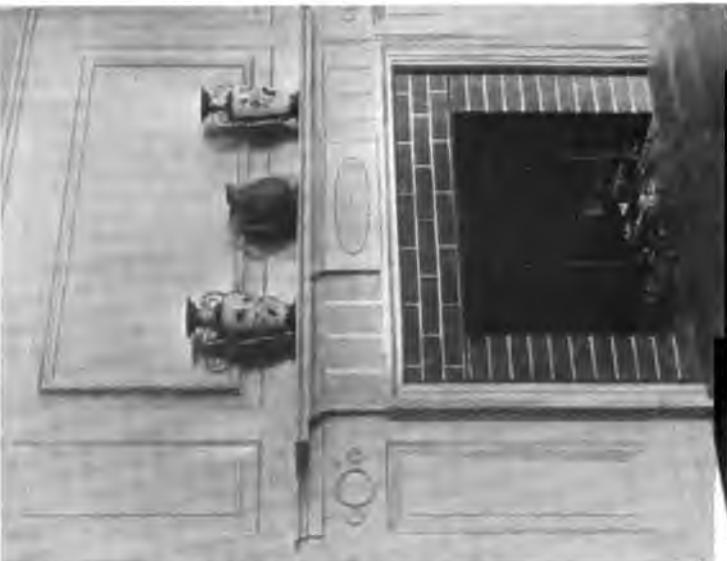
In our new dining-room there was little to hinder us with our feature, which is the fireplace. From the plan and the pictures it will be seen to be well balanced. It is mostly of wood and such little plaster as occurs in the surface space around the doors has been painted like the woodwork to count as such. There is a bit of the local crudeness in the buffet and its balancing motive, the door into the entry. Our beam is clumsy and our corbels in the soffit of the flat arches are relics of our old farmhouse and hence of Gothic origin. The chimney breast proper will be noticed for its simplicity; the few ornaments are introduced to get terminal spots and produce lines. We are so far from the common thing that we feel we may do this. Otherwise it follows closely in its molding and general suggestions an old house at Windsor which still retains some of the earmarks of the early period both in its moldings and in its overhanging second story.

And lastly of the hall, and this resolves itself into the staircase. Now this feature is one of the last stages of the Gothic development merging into the Georgian, which however, we often find in the earlier Georgian examples. The solid or box stringer is easily likened to the side of a stepladder and it was by means of a stepladder that the old Elizabethan chambers or lofts were reached. Our posts are a bit off from the plain square models, but it seemed desirable to get the extra strength here and at the same time avoid the necessary bulkiness of the square post.

A word as to decoration:—the walls of the kitchen, together with the servants' rooms and the bathrooms have been painted, which allows of easy cleaning. The walls of the recep-



The living-room fireplace is four feet wide and has the old freestone lintel. In the over-mantel is incorporated the piano cover



This detail of the dining-room mantel shows a little more clearly what the motive is. Effort has been made to economize work

શ્રીમતી માયારાણાના પુત્રીની જીવનાની એક વિધૂતાની દેખાઈ હતી



The new stairs followed an old model, in which certain peculiar moldings of the stringer pieces were closely translated.



Buffet in dining-room which follows much of the crudity of the old craftsman builders. It happily lacks the architectural touch

tion-room are done in flat fresco color of a pale yellow. Those of the living-room are covered with paper of a medium brown in a pattern suggesting the texture of the Eastern grass fabrics. A limited and judicious use of dull gold adds richness to the effect. This paper was chosen above the pattern sort because it was to serve largely as a background for pictures. The dining-room, being intended to carry itself without much pictorial aid, is of a very good semi-realistic tree pattern in grey monochrome with touches of subdued green. A couple of the chambers show examples of the perpendicular stripe with the usual diaper pattern of flowers.

The exterior of the main building has undergone but little alteration, except in the raising of the long windows and the addition of a molded water-table across the front. The sash are made with the old-fashioned heavy muntins, but the size of the glass has been increased from its probable original size. Its shape too suggests the general block of the building and is more in harmony than a narrower form might be. In reality it is a compromise which considers in a measure the difficulty attending the cleaning of small panes. Old-time glass was small from the conditions attending its manufacture.

The additions consist of an elaboration of the front entrance, the new oval window above, the bay window at the rear and the new piazza. There has also been added a hanging gutter and this is always best when the original has no installed gutters.

The original front door was a double affair and so narrow that to use one-half of it was a nuisance. The new doors were similar in design but wider. The doorway is a composite and has its origin in different originals. There is little that is copied absolutely and this little is in the molding details. The oval window above, which is really a part of the motive, draws its inspiration from other sources.

Our piazza has been made to balance that this characteristic of the house proper might not be lost sight of. Our cornice is as simple as is practical, and certain members in it correspond and line up with the top of the window casings. Our columns and pilasters have a "double" entasis, that is they are curved from the base to the cap, while in the architectural conceptions

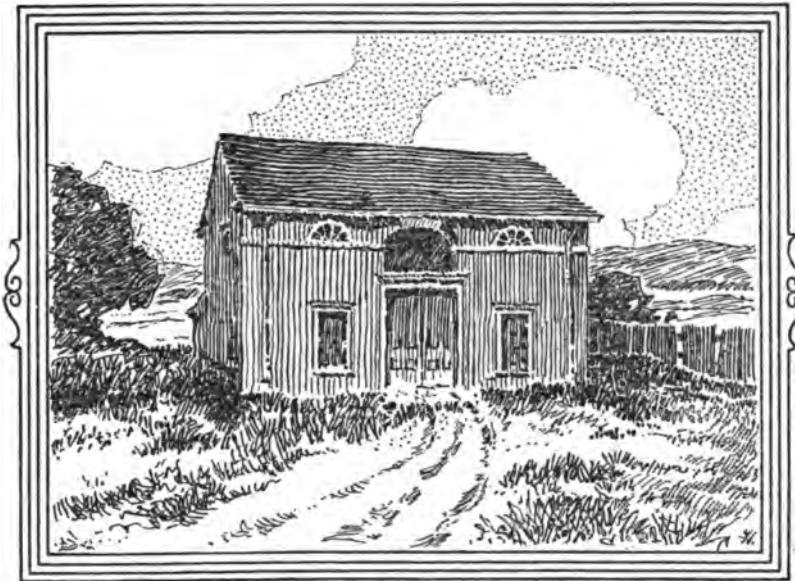
the lower portion is straight; we have full authority for this. The piazza rail and balusters are as simple as possible.

The recess in which the service steps enter the kitchen is suggestive in line of the old woodshed addition. This it will be noticed has an architrave bare of moldings and the cap is made up of the case moldings of the windows, with the top of which it is in line. The elliptical arch is a true form, not constructed with three segments of a circle, as is likewise the case with the oval window in the front of the main house. The small windows above the recess serve only to light the closets and therefore we have considerable blank wall about our recess, a telling but generally a difficult effect to obtain.

The bay window added to the living-room is so inconspicuous a feature as to speak for itself in the picture, but the long sweep and terminating curve of the roof of the open-air room is apt to make a New Yorker, unfamiliar with the valley, bristle with interrogation points. No, let us hasten to assure him, we have not borrowed from the Dutch and in so doing mixed up style. The old-time craftsman did this for us and there are many existing examples in the valley to testify to the fact.

It will be noticed that the rear of our ell, owing to the abrupt falling off of the ground, looms up in the air considerably. Therefore the laundry yard with its wistaria-covered enclosure will serve, besides its initial purpose, as a screen to eliminate some of the height of the offending ell.

The foregoing will serve to give some idea of the problem presented and our method of solving it. It may not be a perfect solution; probably it could be bettered; but we feel that it is a fairly creditable effort and we are firmly convinced that our course in following the local craftsman, rather than the wider source of inspiration and the very correct taste of the average architect, is the only sane method of handling an old house. One does not set the same palette for every sort of picture.



Chapter Eight **OUTBUILDINGS, ETC.**

WITH all structures independent of the house, the exteriors, like that of the latter, should keep to the old style as far as possible, however modern their interiors may be. Amongst outbuildings, the barn stands prominent. In its original form it housed all kinds of stock. The stable is an aristocratic barn, intended only for horses. Although ancient enough for all practical purposes, it does not occur commonly in Colonial design, except in the South: most people used the barn.

When the barn divorced itself from the general roof, it took unto itself new dignity. The outshot, which in the parent form housed the cattle, was retained; the main body of the structure, used as a threshing floor, became a through passage with double doors at either end, and the outshot was repeated in reverse on the opposite side of the building, making a balanced plan. One can see at a glance that its kinship with church construction was very close:—the central nave and flanking aisles. Perhaps our using the term outshot in this way may confuse those who

will remember it as an ell form with an independent roof. With the cathedral the outshot is the aisle; in barn construction the framing places it, although it is generally under the same roof as the barn. The interior posts flanking the threshing floors are really the limits of a main structure, from which the outshots might be removed without injuring its true intention and utility.

Although we still have with us a few examples of the pre-Georgian house, there are, as far as we are aware, no barns of this period, such as would stand for examples. Whether the Pennsylvania stone barn can be dated as far back as this, is a question for the local historian. However this may be, there is enough of tradition preserved in the Connecticut Valley of the early and middle Georgian period to show what it might have been and it is very improbable that any radical change took place in its development. Being an offspring of the house, it inherits its construction. It is a simple edition, adapted to its new and exclusive purposes. Less important than the house in many ways, it was very plain—often to the extreme of bareness; nor did the change of style affect it to the degree that it did the house. Consequently we find it much the same throughout the several periods, although in special instances during the later Georgian, the barn and the stable were treated to a little style.

Many barns were boarded vertically, without other covering, although we note that sectionally, shingles were used in addition. This open construction served to ventilate the hay. The Pennsylvania stone barn had vertical slots at intervals to effect the same purpose. In the Connecticut Valley the tradition of the early overhang was preserved oftentimes in the gables but there was no break between the two stories in the frame, although we frequently see the second-story boards overlapping those below, thus preserving the tradition through a detail of construction.

We have already mentioned the fact that the style of the barn was behind that of the house. This was because the former was merely a constructional problem, unembellished. Except in the case of the overhang, the Georgian house was practically the pre-Georgian structure dressed up. The early open cornice,



An old Long Island barn which follows the Saxon tradition in having the end door. The design as it stands is good and also effective with the long shingles



A Connecticut barn which follows the tradition of the Pre-Georgian type. It is boarded vertically and the aisle is from side to side after the English fashion



The Baldwin stables at North Woburn, Mass. A good model for a large building of the kind, which might be built with two aisles instead of one, giving five sections



Corn-crib at the Baldwin Estate, which holds its style despite its simplicity. Note the excellent barn-yard gates beyond

boxed in became a Georgian cornice; the open stair rails grew turned and elaborate balusters and became another style.

While we would advise keeping the character of the structure as originally intended, we would modify it to a certain extent. There should be some note which should tie it to the house (unless it is already tied in fact, when the problem becomes one of dressing), some detail that will fix the thought of comradeship, without marring the original. If one is to retain the boarded walls, the crude types of segmental, elliptical or circular heads for the great doors will help us, or perhaps if the building be shingled, the simplest form of a box cornice harmonious with the house will do. In the case of the overhanging gable, we would suggest that the cornice merely return slightly rather than disturb the simplicity of the overhang by traversing the gable. In all this we are simply doing what the owner would probably have done, had he cared to go to the expense.

If we are to cover the outside boarding we naturally destroy our ventilation by closing up the cracks. For this reason other means must be employed to preserve it. It is not necessary that we put a ventilator in the roof (unless our roof be hipped), although this in an excellent place for it. We cause less disturbance by inserting two narrow window openings in the opposite peaks and fortifying the same with louvers. Under the eaves and over window openings or where they would naturally occur, the flat squat vent may be placed to good purpose.

While shingles may serve to cover the barn walls, we are much averse to using clapboards, unless in extreme cases where one be in the village and the structure be near the street. We do not wish the barn to be too conscious; clapboards have the self-consciousness of dress. Perhaps the wide siding could be used, it being a crude form of our modern clapboard, but best of all is the manner of the original intention; the vertical boarding, which we can, if desired, overlay in like manner and thus keep our effect. Of course where shingle was original, it should be retained. The great danger in overhauling our barn lies in our chance of spoiling it; it may be of so simple a character that one may fail to recognize its perfection until too late. Personally we feel that the open vertical boarding has so much in

its favor that it might well be retained as such, without covering. The portion of the interior allotted to the stock can be ceiled up on the inside if desired.

While the exterior may be a barn exterior, there is nothing to hinder the interior being a stable. We have already stated that the common arrangement consisted of the main, through passage with the flanking outshots. Above the latter, leaving a head room between six and seven feet, were second floors or platforms, while another platform over the central portion of the structure was placed about four or five feet higher. This

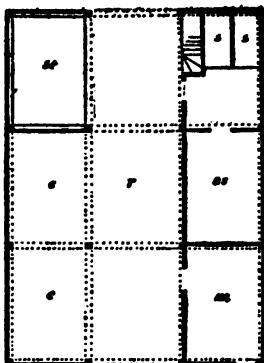


Fig. 17—Plan and section suggestive of the stableizing of the old barn. B S, Box stall; C, Carriage; H, Hay; HR, Harness room; S, Stall; St, Straw bay; T, Threshing-floor; P & H, Poultry & hogs

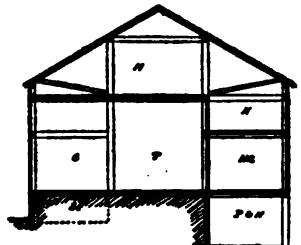


Fig. 18—Plan and section suggestive of the utility of the spring as a cooler. C, Cold storage; S, Spring-house cooler; W, Water; V, Vent; O, Overflow; G, Grade

left, as will be seen, a chance to stow away the hay by passing it first to the outshot platforms or mows and thence to the center mow. Where we find the stock and horses confined to one side of the building, the opposite outshot is very apt to have no floor and thus offers several feet in depth for the further storage of hay or straw. Part of this outshot may be utilized for the best carriage, the every-day rigs and carts being relegated to an outside shed. Underneath the barn, a portion is utilized as a shelter for the stock when turned into the attached yard and another portion for the hogs. This old-time arrangement is still a good one; any farmer will tell you why. Sometimes, too,

the poultry are taken care of under this roof. All this is the general scheme of the old barn, which is subject to variations and sometimes radical changes.

While we may desire still to utilize the barn for the purposes for which it was intended and of which use there is little to be said, we often require its use as a stable. Its adaptation is comparatively easy: one outshot may be utilized for the horses, the harness room and the grain room, while the opposite outshot may serve to store carriages. The space allotted to the horses would naturally be closed off from the rest of the floor, but the carriage portion is best left open into the main passageway. Such arrangements will probably make it necessary to separate the mows from the rest of the building. To effect this change, we may floor across our passage *on top* of our side mows and remove the old floor above it, provided we gain space enough to make the change worth while. Or perhaps we may treat the portion in the center thus, leaving that near the main entrance free so as to get inside with a load of hay from either direction, keeping the lowered new flooring as an easy passageway from one side mow to another. Perhaps scuttles may be necessary in the floor at each end to allow for the successful workings of the hay-carrier or, if one is afraid of getting dirt on the carriage, the hay can be put in through an outside door. There may be some difficulty in getting head-room for the carriage under the frame of the side mow and such may mean a raising of this, or perhaps utilizing the outside cart shed. Whatever the treatment be resorted to, it is quite evident that the carriage should be protected from the litter of the hay.

Necessary to the general utility of the barn is the barnyard. This is the natural intermediary gathering place of the stock, betwixt the tie-up and the pasture. With the stableized barn, it may be used as a paddock. When the height of the barn underpinning (usually of stone) is sufficient, the enclosing barrier is best made of like material. Laid in one-third-cement mortar and reasonably smooth on the inner side, it will, if properly constructed, with a suitable foundation, last indefinitely. As far as utility is concerned, a good wire fence would answer every purpose, but unfortunately for this effective agent, it lacks bulk and the look of substance one naturally expects in the fence

attached to a building. Therefore, outside the wall, the rail fence of sawed stock seems to be the proper thing under the circumstances and corresponds with much of the old-time gate construction. The picket fence is hardly the thing, even if capped; the barn-yard is too near the purpose of the pasture to borrow the motive of the enclosed front flower garden. Sometimes, when the barn occurs on the opposite side of the road from the house, we frequently find two barn-yards. One of these forms the entrance way to the structure and the other the stock yard. In all this is an excellent chance for simple gates and fences; one may make or mar the problem with this treatment alone.

There is little to be said of the stable that has not already been said of the barn. As a general thing it is modern enough to be serviceable without loss of convenience. Have a care to your exterior; your interior may be as up-to-date as you choose. One thing must be remembered: that the barn or the stable should not overpower the house, neither by its size, by its near proximity to the latter nor by its color.

If one's holdings are large or important enough, it may be desirable to keep a man on the place all the time, and as this often means his family, a structure taking the isolated form or attached to or incorporated in the barn or stable may be desirable. With the separate building, there is a chance to do much with the early methods; a large kitchen (also used as a dining-room) and a living-room, with one or two rooms above. One could almost duplicate some of those simple early structures. Whether attached or detached, it should be simple and at best be but one grade higher than the barn. There is temptation, where the main house is set back from the street and other conditions admit of it, to put the cottage *on* the street, making a gate lodge of it and giving it the whole flavor of the early setting; its natural simplicity helps.

It is perhaps better that small outhouses like the swine-house, hen-house, woodshed, etc., with possible exception of the ice house, corn-crib and vegetable cellar, be included collectively under one roof or annex themselves as is fitting to either of the large structures—the barn or the house. This saves a scattering of buildings. Such should not be *tacked* onto the barn or



The outhouse, if incorporated under the roof of the woodshed and screened by shrubs or trees, loses its bald identity in the general ensemble



The old Taylor stable at Roxbury, Mass. The wings to the right are apparently of a later date. The stable proper is simple and dignified



Minot House, Concord, Mass. An early Georgian type of the "B" plan, with an excellent woodshed



Servants' or caretaker's quarters attached to the barn. A modern building on old lines, using the windows and doors of a former structure

stable, although it may be embodied within its walls. The wood-house, which is often attached to the house, may be separate from it and combined with the tool-house, the earth closet and perhaps an outside laundry. Even if the house is provided with a plumbing system, the earth closet is still important. One fact should never be lost sight of in locating the pig-pen and like delicate units:—their relation to prevailing winds and the house.

In suggesting the earth closet we pass the old-time privy by as a dangerous thing. The former is provided with a tight box arranged for easy transportation either by hand or horse and its frequent distribution to various parts of the orchard, vineyard or garden. A receptacle for dry earth is arranged for, inside the structure, and this if used plentifully will act as an absorbing agent for both moisture and odor, being a decided improvement over the ever leaching and consequently dangerous privy. It is especially important that the usual conspicuous isolation of the above mentioned structure be absorbed under another and more dominant roof.

The woodshed is generally attached to the house, either directly or by a covered passage. So arranged it best serves

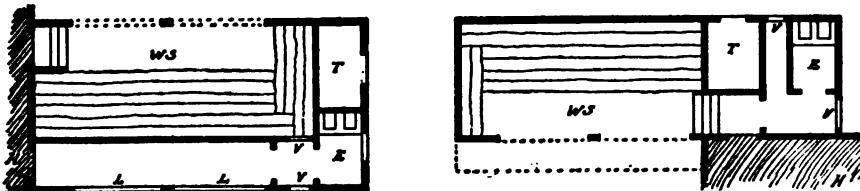


Fig. 19—Showing two arrangements of the attached woodshed with the incorporated tool-house and earth closet. The latter has all the advantage of the isolated closet, by introducing cross ventilation in the passage between it and the house
 H—House E—Earth closet V—Louvered vents
 WS—Woodshed T—Tool shed L—Lattice

its purpose when rain, sleet and snow are frolicking with Boreas all up and down the countryside. We do not know whether the reader be aware of the fact, but in such case it will bear repeating:—wood, to keep dry and in good condition, requires considerable ventilation. For this reason one side is frequently open to the weather or, in the extreme, the opening is latticed or blinded. Under such conditions the flooring or platform does not necessarily extend to the front line of the open side, but

drops back to afford a passage on the ground between the two. This serves to remove the wood from the weather and to keep it from the ground. Of course one recognizes, without being told, the possibilities for effect with an exterior of this sort.

The spring house is an institution of which many of us hold pleasant memories. When one is fortunate enough to have a good spring, within reasonable distance, the opportunity should not be neglected. Not only is the spring a possible source of water supply, but it serves as a cooler as well. Naturally the spring house is just below the spring so that the water may be made to flow through it. The common floor is an island around which the cool water is made to flow, discharging at a point approximately opposite its entrance. The pails or cans are placed in this miniature stream, which, never freezing, is as effective in winter as in summer. Naturally the walls are best if of masonry and hollow, and in these days of cement concrete the problem of the interior may be made both simple and clean. The wall openings should be blinded and two at least be low in themselves or extend downward to near the level of the platform. The roof must be ventilated as well. Commonly the entrance was protected by a porch, but if the structure be used for other purposes and in so doing gives us a vestibule between the outside and spring house proper, or if the door occurs on the north side, or if it be well shaded by trees, the porch may be omitted.

A good spring with gravity toward the house is worth almost its weight in gold. Such a condition is at once a water supply, milk cooler, house cooler and cold storage for fruit and vegetables. The same supply of cold water passing through several compartments of one building may serve several ends. If we have grade enough so that our cold storage may be located *beneath* the spring house floor (and this can readily be done by aid of concrete), we can construct a water-tight and hollow wall so that a sheet of moving cold water will envelop our cold storage and render its temperature as even as is possible. This of course would require ventilation. Although the idea is new to us, we see no reason why it might not be made of practical value, being but the combined principles of the ordinary spring house and root cellar.

If perchance our grade will admit of it, the overflow of the spring house, or a part of it, may be carried in a tight conduit through the hollow walls of a metal cooler in the house cellar. As ice is a problem in itself the above suggestions are worth consideration.

Speaking of ice very naturally suggests the ice house, and if there be no spring, one has hardly any other resource. Although the question of the ice house is discussed at length in Farmers' Bulletin 475, and far more thoroughly than our limited space will allow, yet we can hardly pass it by without a brief description. Generally speaking its construction is as follows:—having selected a sheltered spot, the foundation is carried below the frost and the pit thus excavated, being well drained, is filled with broken stone and cinders. Perhaps there is a slat floor on top of this, but it is not necessary. The walls, if of wood, are double sheathed on the outside and also on the inside, the latter having an air space between. The space between studs is filled with shavings or sawdust and the roof carries necessary vents. In primitive types the ceiling is omitted, but there is practicability in an insulated ceiling. Within this chamber, properly drained and ventilated and protected from the sun, the ice is packed in sawdust. A form of cold storage is contrived by elevating the ice chamber and utilizing the space below it.

The common root cellar is supposed to be for the most part covered with earth and partly below the ground level. It should be placed on well drained soil, either in the open or dug into a bank or hill. Its roof is generally covered with soil and turfed, in fact it is made to retain as far as possible a normally cool temperature without danger from the influence of the outside temperature. With this in view, the vertical end, against which it is manifestly impossible to pile dirt, should be treated much in the manner as the ice house wall and also fitted with double doors. It goes without saying that there should be a ventilator in the roof and one that may be stuffed with straw in extreme weather.

Sometimes we find the cellar banked up on all sides and accessible only from the roof; a good idea, barring the difficulty of handling the contents of the cellar.

There seems to be considerable difference of opinion as to

whether the floor should be of concrete or dirt. The cement manufacturers give us delightful cuts of up-to-date farm buildings in concrete, amongst which the root cellar figures entirely of this material, even to the bins. The less "progressive," but probably as competent farmer tells us that he can't keep his "stuff" on a concrete bottom. The discussion is rather outside the scope of this book and yet one cannot help remarking, before dismissing the subject, that fruit and vegetables were successfully handled long before concrete was heard of in this country.

Perhaps the most vital question which we humans have to contend with, outside that of food supply, is that of water supply. The reclaimed house that cannot call to its assistance the service of good pure water in sufficient quantities, is handicapped in a most unfortunate manner. The modern public service, which one cannot often rely on in the country, from its very nature is not always pure beyond question. The same may be said of the small co-operative system, which is also expensive; then too, one is not always able to protect one's source of supply from the outside interference and contamination.

If, however, one has a good and copious spring, the problem is simply one of guarding against outside infection. Often in following the flow back into the ground we may be able to find firm footing on solid rock on which to rear a protecting wall of stone or concrete. Brick is omitted purposely; it is too porous for this problem, unless thoroughly tarred on the outside, a treatment which might be applied to stone and concrete as well.

Unfortunately the reliable surface spring is a rarity, except in places where it is unavailable or in the advertisements of farm property. Thus we are back with the old well at last; not the well we knew intimately in the days of childish joys, but the kind the doctors prod with a long stick, calling all the time for the public to look out. Yes, it is probably true that the well has killed many; 'tis also a wonder it has not killed more. But whose fault is it? Surely not that of the well. Sometimes the well is spring fed; more often it simply interrupts a flow. In either case the great danger lies in possible infection. The spring fed well is probably safer as it is apt to come from considerable depth and to have been thoroughly filtered. The

શેરીની લાંબી ગાળીની નોંધની રીતું હશે કે તોડીએ અને પણ આપીએ વિનાની રીતું હશે



An open woodshed with good, simple details, giving a large area of openings. Its attachment to the house is bad, however



The screened woodshed has some practical advantages, but the lattice should fall back of the outer wall face several inches to give the best results

શેરીની લાંબી ગાળીની નોંધની રીતું હશે કે તોડીએ અને પણ આપીએ વિનાની રીતું હશે



Old well and cover attached to the house. The bucket is balanced on a drum and is accessible from the inside as well as outside the house. (C. L.)



The old well-weather is picturesque and thoroughly practical, provided certain alterations (described in text) are made to exclude dirt and vermin.

other type, on the contrary, coming from no one knows where, may pick up all sorts of unpleasant things in its passage. We reason that if we keep our drainage away from the well and on a lower level, we are doing about all that we can be expected to do. But then there is the barn and the outhouse; how do they stand? Even then it is a question whether the sub-strata pitch with the land or against it. With this to contend against one can only keep watch on the water and resort to occasional analysis.

As to the construction of the well there are several different methods. Of these the stone wall is the most common. Old wells were of very rough masonry and the collection of water growth they acquired suggests that such walls might be much smoother to good advantage; the well requires cleaning occasionally. Brick of course makes a cleaner job, but good hard material should be selected. Our own preference is the glazed tile.

The manner of construction depends on the nature of the supply. Have we the spring feed, the walls may be tight (if possible) to the exclusion of other possible sources of supply. This may mean an overflow above the ground level—that, provided we have been fortunate enough to check the loss of our water, through its natural subterranean channels. If on the contrary we are dependent on the ordinary filtered flow, we must leave enough *dry* wall at the bottom to allow of its collection, but the wall above should be tight, thus excluding such surface water as might otherwise pass through it.

Besides the purely practical side of the interior we have the exterior which must be both practical and artistic. To begin at the beginning, we have the well sweep. We will not go into its history, because it is not vital. It suffices to say that it may be used with any of our less palatial houses up to 1800. As to the well sweep we can testify to its practicability, having found it comparatively easy to push the bucket down; it would come up laden, of its own accord. Perhaps the one thing in all this with which fault may be found, is the curbing and general open condition of the well. Stray toads, kittens, rats and mice, to say nothing of countless insects, are hardly pleasant additions to well water. That these arrive by way of the bottom, the

cracks, the spout and the open top, one hardly needs be told and that it is a simple matter to eliminate these objections, is equally clear. A tight well curb, well secured and fitted to its foundation, a cover for the top having a slight pitch and some sort of screened contrivance for closing the spout (provided it had one) should form an effective combination against undesired visitors. This, and of course the provisions for ventilation plus a dust screen, should not be neglected if we are to do the thing properly.

The windlass is probably later than the stone balance, which we often see in shallow wells. With this last form the well rope is attached to a wheel or drum whose axle is a wooden shaft. To the latter the stone weight is hung as a balance, being sufficiently heavy to counteract the leverage of the drum. Thus it is evident that, if the circumference of the shaft be one-third that of the drum, the bucket will drop fifteen feet while the stone is ascending five.

Of the crank windlass there is little to be said, except that the external details of curb, hood and crank should have perhaps a primitive touch. This and the same regard for the curbing and screening in, as we have already mentioned, will do about all that can be done.

Does the reader by any chance remember the old wooden pump; made from a solid log, with a wooden handle and a wooden spout, which together with a long wooden trough for the horses to drink out of, completed a very wooden whole? And perhaps there was a ball on top and a bit of crude wrought iron work to support the spout and keep the suspended bucket from slipping off. Do you by chance remember this? If so, it is well, for this is *our* pump—the only pump we are allowed to use, unless perhaps we may hide it where its cast iron ugliness will not be seen. But if it be possible give us the wooden exterior whatever you may do with its inner working parts. Remember there are lots of things more unsightly than an old wooden pump. And if it is not rich enough for your house, take a good look at a fence post and see if it does not suggest something to you—but do not over-elaborate.

When one mentions the power pump we naturally think of the driven well which often supplies us with water—water which tastes of yards and yards of iron pipe. Now the driven well is

too important in its function to be slighted and too modern to be discussed here. It will be sufficient if we admit its usefulness for general purposes, while denying its superiority as a producer of drinking water.

The power pump however, is not limited to the deep well. With the aid of hot air or gasoline it may be used with the ordinary well, provided it furnishes a copious supply. Small problems may frequently be solved in this way. That the house which encloses the outfit should be in harmonious style goes without saying.

Not so very many years ago, people lowered things down into the well in pails to keep them cool, but the doctor with the very long stick, pointed a correspondingly long finger at them and some drew the pails up again. Now perhaps he was right after all; just the same, the well was a pretty good cooler. Perhaps out of respect to the busy and learned M.D. we might build twin wells and utilize one entirely as a cooler. The dumb-waiter principle might be followed, with the addition of a metal tank on the bottom of the waiter which should serve to float it and incidentally to hold the milk cans.

We would not advise placing a new well close to the house wall, where we sometimes find them, but if such exists and seems practical, the cooler scheme might be used to advantage. Usually this well was back of the kitchen, next the sink and was covered with a shed. The bucket was on a drum, stone balanced, and the door in the kitchen wall above made it accessible from inside as well as the outside.

In most instances we are confronted with the problem of water storage, whether it be the common one of rain water or the less common one of the general gravity supply.

The outside cistern should be below the ground if possible and, where its exposure is necessary, it should be screened with some plausible Colonial motive, whether by house, evergreen or vine-decked wire. The cistern bottom whether of concrete or brick should pitch toward the outlet so that its contents may be drawn off and the chamber cleaned. A slight hollow or basin will be found convenient at the low point. Naturally it should be provided with an overflow and a modern man-hole device in the top.

The round or jug type is circular with a domed top, the man-hole being in the center. The walls are commonly of brick plastered on the inside with cement, waterproofed. This waterproofing should also be used with the concrete cistern. This type, ordinarily, has a flat re-enforced concrete slab as a covering and the man-hole, as in the jug type, has a necking so that the earth may cover the main structure by at least a foot. Outside of all this the cistern requires a vent and such may easily be effected by incorporating a tee in the man-hole cover, with screened quarter bends dropped from the two openings.

The attic tank, which sometimes stores the rain water or a part of it, is more frequently filled by means of the force pump. It gives us gravity service and its filling is a job in itself. Whatever its construction, it should have a metal tray under it in case of leaks, a sufficient overflow and ample support in the framing of the house.

Having modern plumbing to aid us we are tempted to suggest a form of home-made ice-chest which, with the usual cool cellar, may be found very convenient and effective. The food receptacle is made in the form of a dumb-waiter screened with fine mesh wire on all four sides. This is dropped from the pantry into the cold box provided for it in the cellar, the ice being beside it and as near the floor as possible but so that the ice can be slid into it from the cellar window. The dumb-waiter slides by the ice and an extension is made to the bottom of the former, so that the cold box into which it drops is kept continually closed.

The disposal of sewage is often a delicate problem, but with strictly country conditions, one has more leeway than in the village or town. However, we cast the ever suspicious eye on the local water supply. The only thing to do is to carry our soil pipes, laid tightly, to a point below and distant from the water supply. Here one naturally builds a cesspool, but this is so unsanitary a contrivance that we suggest that one consult some of the numerous books devoted to this especial subject before plunging into an antiquated system that can be improved on in many ways. A detailed discussion of the subject is somewhat outside the purpose of this book, but we have in mind one system which is said to work perfectly by such as have used it and which,

being very simple, should make any other system practically unnecessary.

The septic tank is built of concrete; its inlet is through the side wall at the top and has a quarter-bend, bell-shaped, terminal; the outlet is the same. When full, the surface is but four or five inches from the solid concrete top and the tank, being thus sealed (as the bell-shaped inlet and outlet are submerged) allows of the accumulation of gases in the space between the fluid and the top. These gases act on the solids and destroy them. It is estimated that a lapse of some years must take place before the tank would have to be broken open and cleaned.

The inlet soil pipe is laid with close joints; the outlet for the distance of a few feet, when it opens into a horse-shoe tile, which, being laid with a slight pitch, may be anywhere from twenty to fifty feet in length. The size of the tank, if we remember rightly, is three by three by six feet deep; this for eight persons.



Chapter Nine **THE GARDEN**

WITH the firm belief that all outdoors is a garden, we have included the general details of artistic practicability as well as floral treatment under this simple head. And in all this we do not intend to deluge the patient reader with the big words of floriculture and horticulture and expect him to encore. All this has been done and done again in a far more convincing manner than our limited space will permit.

In our first chapter we mentioned the importance of preliminary plotting of our further arrangements. This one may study and restudy until he arrives at the solution of the problem; most any one can draw well enough to do this.

Now in all probability you have a barn and a woodshed outside the house and will decide on a hen-house and a new cover for the well and let it go at that. Don't! Please don't! Plot out the location and approaches of *all* the buildings we have mentioned and some perhaps besides. It is not difficult, nor does it take much time. Later, when you have decided to introduce

some of these features and find that they do not fit, you will regret it; we are sure of this.

Our great governing line is the axis of design; which so far, we have spoken of only in connection with the house. The main doorways offer one set, the principal windows or groups of windows another; perhaps there are more. All these with the

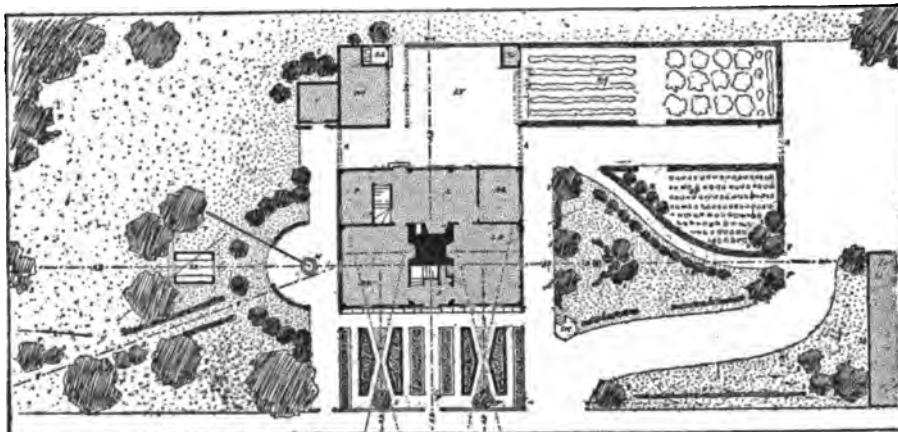


Fig. 20—Showing an example of the "B" plan in which the barn is to the south and most of the view to the north is bad. Also illustrating the use of the axis of design in the method of treatment

A—Arch	G—Grape trellis	KG—Kitchen garden
AR—Arbor	H—Hall	S—Shrub
B—Bird bath	I—Ice house	St—Strawberries
C—Cedars	BR—Bedroom	T—Tree
CM—Carriage mount	V—Vista	SB—Barn
AD—Axis of design	K—Kitchen	TS—Tool-house
CR—Currants	LR—Living-room	W—Well
DR—Dining-room	Ly—Laundry yard	Wd—Woodshed
EC—Earth closet	P—Pantry	WA—Wistaria arch
FT—Flower trellis	R—Pie plant	

extreme outlines of the house, should be produced independently on the side of the house from which they spring. Naturally the window or group of windows is more determinate of features, while the door suggests the path. It is not necessary that the axis terminate in some more or less emphatic detail; often it may pass *between* two units as in the path or vista, but in such case the flanking accessories become balanced on the axis as a center and hence count as one mass. The axis may or may not tally with our interior axis, but if it does, so much the better. If we

are making alterations of the house and it comes our way the lines should be made coincident.

Aside from the axis, there are the lines of vision. These, drawn from your view points to external objectives, determine the location of units in the interval between. Sometimes one

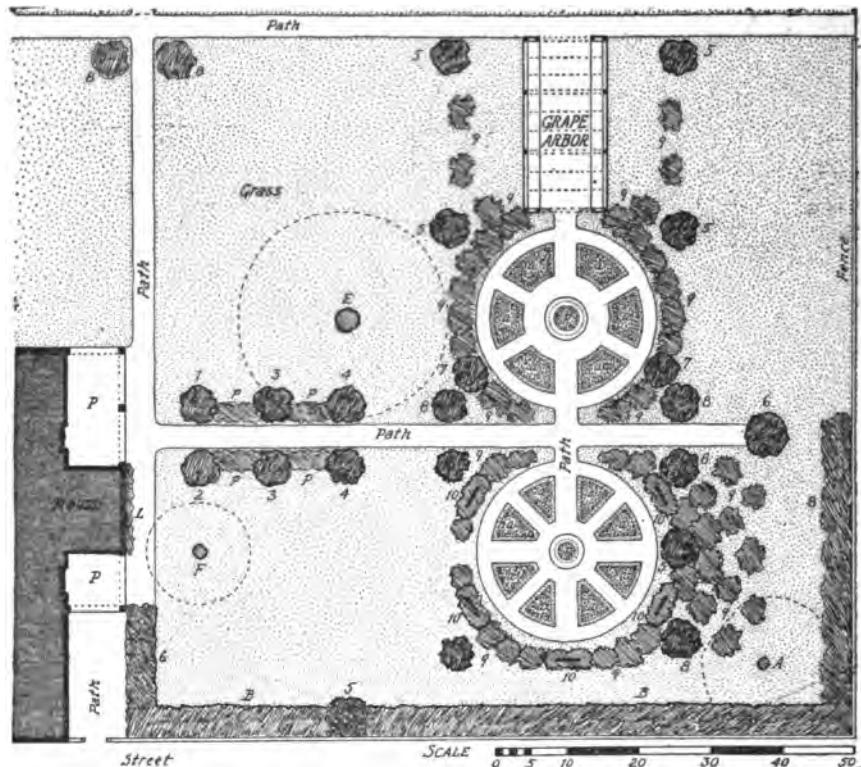


Fig. 21.—Barnard Garden (restored), Deerfield, Mass. (W. H. C.)

1—Sour berry	7—Smoke bush	A—Apple
2—Bridal wreath	8—Lilac	E—Elm
3—Weigelas	9—Roses	F—Fir
4—Day lily	10—Climbing rose on trellis	B—Barberry hedge
5—Syringa	a—Annuals	L—Lily-of-the-valley
6—Japonica	p—Perennials	P—Piazza

wishes to hide certain objectives and in so doing makes a feature of the means employed or perhaps it is a clear vista that is required. All these lines drawn to scale (over cross-section paper) should give you a pretty clear idea of our arrangement.

Perhaps the first thing one considers is the possibility of the vista. Oftentimes old growth suggests this or gives us a foundation to work on. At the present time it is possible to transplant trees of considerable size and in the country the work may be done cheaper, if one understands it, than it can be done by the expert. On the other hand, however, the latter has all the necessary paraphernalia to work with and the process is perhaps surer. Your vista may be one in which considerable breadth is desirable or, for quite the contrary, an avenue may answer. Nor does the line of the vista require flanking throughout its length; two trees or shrubs in the foreground establish and frame it and the occasional glimpse of others beyond in not too regular order adds color and distance.

The vista line may have as its terminal or objective point any natural or artificial object on the place which is attractive enough to hold notice, or it may be something at a considerable distance. In the country the little white church is frequently an object of restful interest and its climbing spire may be seen a long way off. If seen through a vista that leads up to it naturally, with the glory of the late afternoon sun of summer full upon it, one need desire nothing more.

Next to the vista is the panorama or sweep and this may frequently be open and unobstructed; it is far more varied and effective if seen through a screen of trees. Generally, one becomes tired of the unobstructed view. Such gains tremendously if framed and the more so if a change of composition is made possible by a shifting view point. One thing should be remembered always; that in effect, an extended view or a vista depends largely on the perspective of units. A bush or shrub near at hand appears larger than a tree in the distance or middle distance. It is the different planes in which our various units arrange themselves that may remove the result from the commonplace and render into art that which on our plan seems hopeless.

A straight line, as in a hedge, goes rambling away over the natural contours of rolling land. Is the *result* a straight line? Far from it. There are only two spots where it appears straight and one should be careful that one's view point be not one of them. Properly viewed, the result is a rambling undulation, a crowning sweep or a depressed hanging, as a festoon.

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In these days when the hand camera is so successfully handled by the amateur, one could well afford to make pictures of bits and general arrangements which strike him, but these naturally should have the flavor of your particular locality, no matter how far they may be from it in reality. For him who has not the camera or as a further aid to him who has, the numerous magazines and photographic reproductions of paintings

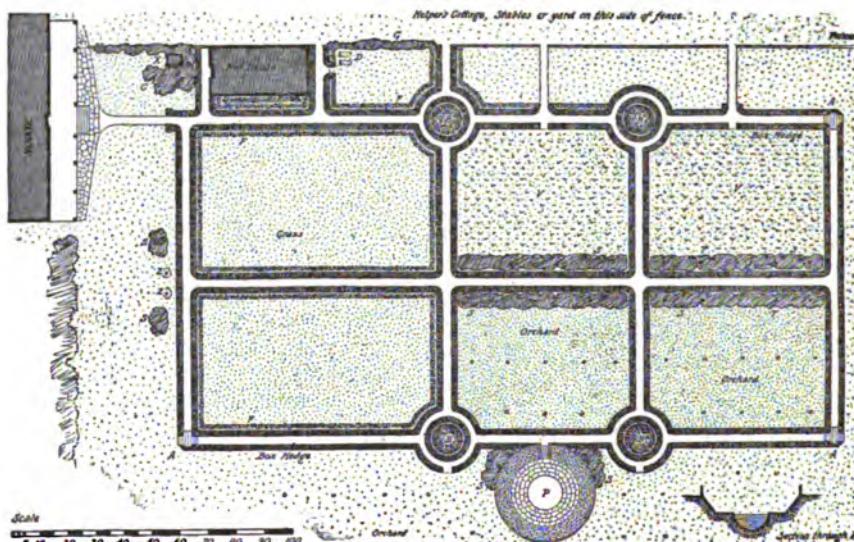


Fig. 22—Garden at "Boxwood," Lyme, Conn.

A—Arbor	F—Perennials	T—Apple tree
B—Flower bed (crowned)	G—Grapevine	V—Vegetables
C—Trumpet creeper	P—Goldfish pond	X—Privy
D—Dogs' graves	S—Shrub	Z—Trumpet creeper on pole

with the reproductions from straight photographs will help one considerably in suggesting possibilities.

Wherever it be possible one should consider the chance of a conservative arrangement; frequently it is possible, by well planned alteration, to give up our parlor to public reception and in utilizing the old kitchen as a living-room, turn our backs on the street.

After a due consideration of views and vistas we next turn our attention to the existing outbuildings. Have they still utility and for the purposes for which they were intended? Per-

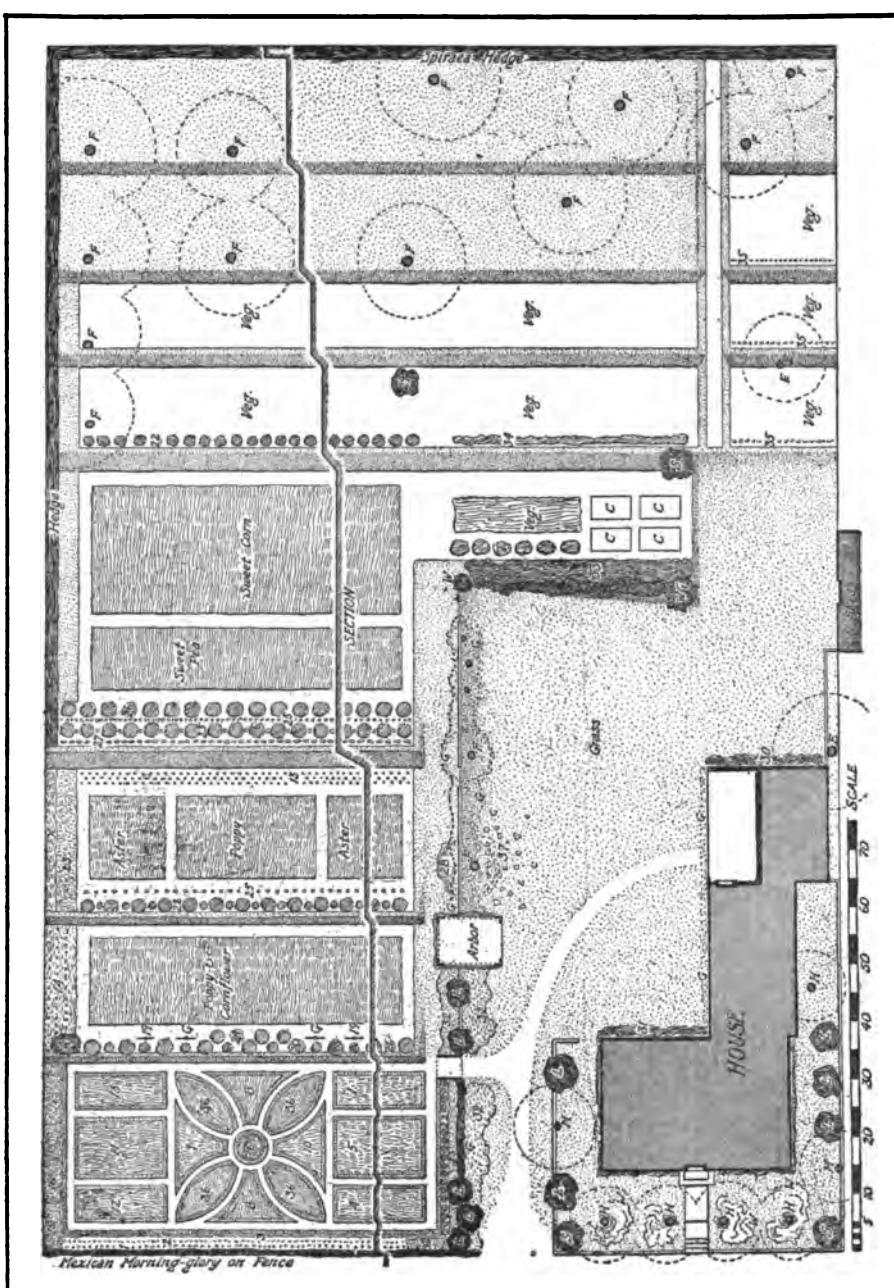
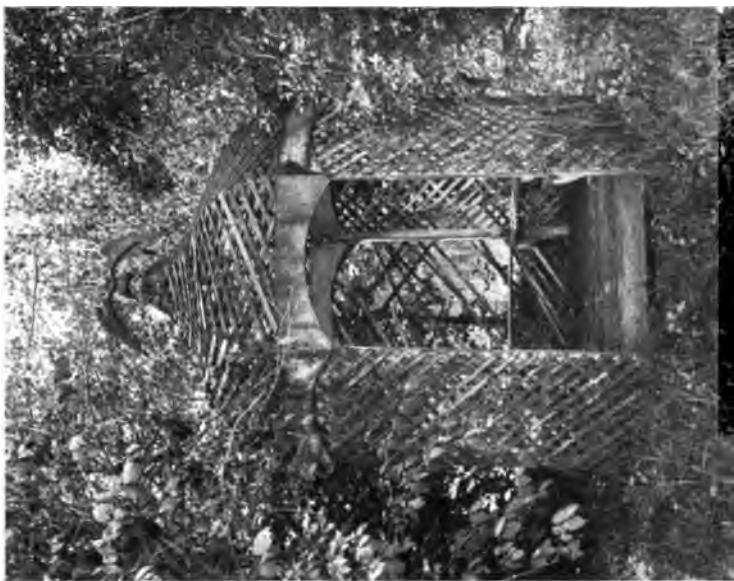


Fig. 23—Keyes Garden, Putney, Vt. See planting list on next page. (W. H. C.)

PLANTING LIST OF THE KEYES GARDEN, PUTNEY, VT.

- 1—Rubro-Cœrulea
2—Darwin tulip
3—Sweet alyssum
4—Canterbury bell
5—Shell-pink aster
6—Autumn crocus
7—Day lily
8—Heliotrope
9—Geranium
10—Pink verbena
11—Pansy
12—Madonna lily
13—Japanese iris
14—German iris in bed of forget-me-not
15—Larkspur
16—Lavender
17—Forget-me-not
18—Monkshood
19—Honeysuckle
20—Old lemon lily
21—Cosmos
22—Foxglove
23—Mountain fringe
23—Swamp mallow
24—Prairie lily
25—Gladiolus
26—Peony
27—Daffodil
28—Myrtle
29—Sunflower
30—Golden glow
31—Old yellow lily
32—Lily-of-the-valley
33—Phlox
34—Mignonette
35—Lily
36—Poppy
37—Wood violet
A—Asparagus
C—Coldframe
L—Lilac
S—Syringa
M—Maple
H—Larch
F—Fruit tree
E—Elm
G—Grass
W—Woodbine
T—Tomatoes
Veg—Vegetable
X—Mist
WG—Wild grape



Octagon arbor at "Boxwood," Lyme, Conn. It was originally capped by a gilt eagle atop of a pincaple



Arbor-sheltered entrance to the garden at the Keyes place, Putney, Vt. The Colonial treatment is very often simple

Keyes garden from the division wall. It is next to impossible to show the charm of the simple old-fashioned garden through the medium of a photograph



The Keyes garden from the division wall. It is next to impossible to show the charm of the simple old-fashioned garden through the medium of a photograph



Entrance to the Prince house, Flushing, Long Island, N. Y. The house is raised on a fair-sized terrace, and the main path is flanked with planting

haps they may serve other purposes, singly or in combination. Then to the new buildings, immediate or in the future; and with all this their relations to the house, one another and their natural approaches. Do not plan to make *too much* of a detour in getting from one place to another, for unless you put up an impassable barrier, you yourself will be one of the first to take the short cut. This is human nature; watch your tradesman if you doubt.

Should your land slope to such an extent that it becomes necessary to ascend a considerable grade, get a good teamster to help you in the location of your drives. As you may perhaps have to call on some contractor of a nearby town or city to do some of your work, he or his foreman should be able to help you out of this difficulty.

The nature of your roadway or drive determines the character of its construction. Under conditions of the town our forefathers used cobbles to considerable extent with perhaps flag foot paths incorporated. Even in old-time courtyards we find the cobble and flag. Brick was also used to a certain extent; the material depended on the production of the locality.

With the country however, where one's drive is lengthy or its character near to that of the farm, a simple treatment with rough field cobbles, crushed stone and a top dressing, oiled, will be found serviceable and quite inexpensive. The more so, that the treatment does not need to extend for the full width of the drive if on a level, as the gutter may be simply of dirt. Cobbles would be required if on an incline.

The path or walk, too, depends on its use and its setting. Flag, brick, pebble or gravel have their places according to the problem. Walks adjacent to the house have a natural leaning toward flag and in a lesser degree brick, even if the smaller paths diverging from them be of another material. Generally speaking, the most used paths should be of the most durable material, but remember, we are limited to the production of our locality; this is the natural principle of building. Hence a marble slab for a marble section, a slate slab for a slate section. Flag walks are more effective if not too regular or if fitted together of more or less irregular units. When crossing a grass plot they are best laid with open joints after the manner of the Japanese

stepping stones, which allows the grass to show between and hence does not cut the grass plot quite so sharply. In like manner the principal walks of a flower garden may be laid in pebbles or gravel.

Steps, which often are of stone of the common type, are frequently built with flag treads and brick rises. Sometimes, in a free treatment the flags alone are set in the incline of a sod bank. This is well enough, except its lack of lasting qualities. If it be constructed with a masonry foundation, not necessarily exposed, it has a much better chance of staying in place.

Speaking of the steps, recalls the old pillion-mounts one sometimes (but rarely) sees and the ordinary horse block of later popularity. Another form which catches the eye along the roadside in New York State and which probably exists elsewhere, is a flight of simple wooden steps with rails, a relic of high-swung wagon bodies and through-braces. Now these are details that interest us, and their use, in one form or another, should fit into our general scheme. Even though we may keep no horse ourselves, we may have visitors.

Having disposed of our walks and drives, let us return to our outbuildings, which we left so unceremoniously. Generally the existing buildings are fixtures, if we retain them; their size and condition often prohibits their removal to other locations. The new structure, then, must play up to the old and it is for us to determine what is to be seen from the house and what not.

In dealing with problems of the South, one naturally has in mind Mt. Vernon and other well known examples, in which the arrangement of the whole scheme of buildings is balanced and connected. This of course is easier to handle than our northern problems which require special study, the result of which can not always be founded on precedent. It is however, an interesting problem, such as lends itself to unlimited space and far off views. Its key-note being academical, it requires harmonious chords to carry out a satisfying theme; in its intimate arrangement, any unit off the main center line (which usually passes through the long hall of the house), requires a balancing unit on the opposite side of the line.

The most objectionable portion of any structure is, generally speaking, its bald junction with the ground. Long ago our

ancestors grew flowers and shrubs along the house wall, probably because it was a convenient place, but in this it served two purposes. Now we are enthusiastic admirers of these old flower borders; they have wonderful possibilities. No matter how stiff their planting, their rambling nature redeems, in a measure, man's laxity, whether it be of taste or forethought.

Some structures we may wish to see entire or in part. Most buildings look better if obscured slightly by trees. Thus, even our most open rendering were better for some break in its formal outlines. Supposing that your view points are not so far apart and that the building in question sits at an angle to your lines of vision:—do not place your obstructive agent in the center; throw it to one side destroying all suggestions of formality.

The roof line of a building is the better for a slight break, but even without this, it is the least objectionable part to have exposed. A roof ascending out of the trees or small growth is a feature which generally lends itself well to composition. In shutting off a portion of your building or in interrupting its sky line, one should not forget that a small tree or sizable shrub—a lilac, syringa or smoke bush may, if placed in the foreground, effect as much as an elm fifty feet high, placed *near* the object we wish to screen. The screen may perhaps be as effective, if but a tracery of vines or interlaced branches and twigs. Often the far object, seen dimly through such lacework, is interesting in the extreme and perhaps the more so if the character of the structure permits a play of light color through the interstices of the intervening growth. Naturally, if the near tree or shrub can be used locally as a feature, so much the better for the art; and if it comes within the limits of the garden, it at once gives it a touch that must be reckoned with in our planning.

These screens may serve three purposes; as windbreaks, as screens to objectionable objects, or in a more or less open form as a frame for some picture beyond.

For an effective windbreak the evergreen is necessary. If we are fortunate enough to possess one ready made, so much the better. Perhaps the neighboring hills or woods answer the purpose; let us hope so at least. Very large trees would be rather expensive to transplant in any number, for while one row may answer, two would be better; the large tree means a considerable

sweep of wind. For ordinary purposes, the cedar or its local equivalent may be used with effect. It may take a formal or informal arrangement as the case may demand. Generally speaking, however, it is best to evade the set look of a balanced composition by the informal arrangement of details; in an informal plan too much formality should not exist.

The screen, while commonly made from small or medium sized trees, need not be so compact as the windbreak and it may also be composed of evergreen or deciduous trees or their combination; the conditions should dictate. We have already mentioned its use as an obscuring agent for local details; besides this, it may be required to cut off offensive details or masses at a distance. Very often our neighbor's taste is so utterly depraved that one wishes to forget those things in which he glories, and one way to effect this lies in not seeing them. Besides the tree, shrubs may often serve to advantage as foils to the monotony of green foliage, or if used in the foreground, may dispense with the tree altogether.

We have already spoken of the tree screen as an agent in breaking the broad sweeping view and giving foreground detail. We here suggest that the row or clump should be trimmed up at the bottom to effect this purpose, provided of course they be not already in condition. For this purpose we generally consider the deciduous tree, but where less view is required the evergreen is practical. It also has the advantage over the former in offering a fitting subject for trimming and piercing, a thing which can rarely be applied to the deciduous tree without throwing it off its balance. This treatment we have seen applied to cedars and if it be well done and has not the look of the artificial, it offers a chance for little glimpses of distance or near color, which last may be supplied by a rear planting of shrubs. Shrubs and small trees may play a large part in connection with the large deciduous tree-screen.

The connecting of buildings in southern work suggests that there is a chance with our northern, which was however, observed to a certain extent. The fence, the hedge, the fence with the hedge backing, the trellis and the arbor are means to this end. In work of a free nature, a picket fence of chestnut, in which the pales have been roughly split out by hand and not too evenly



Sarkey garden, Essex, Conn., showing the walk to the old shipyard. The box on the place is said to have been started from a cup of clippings brought from New Haven



Pentagonal arbor summer-house on the Hollister place, Greenfield, Mass. Asher Benjamin, designer and builder. Displaying considerable understanding of classic models

Two views of the Sarky gardens. The first is taken from the site of the corncrib and shows a rather ancient lilac in the foreground. The bird bath is not in its original location (which we have tried to show on the plan). The second view shows a



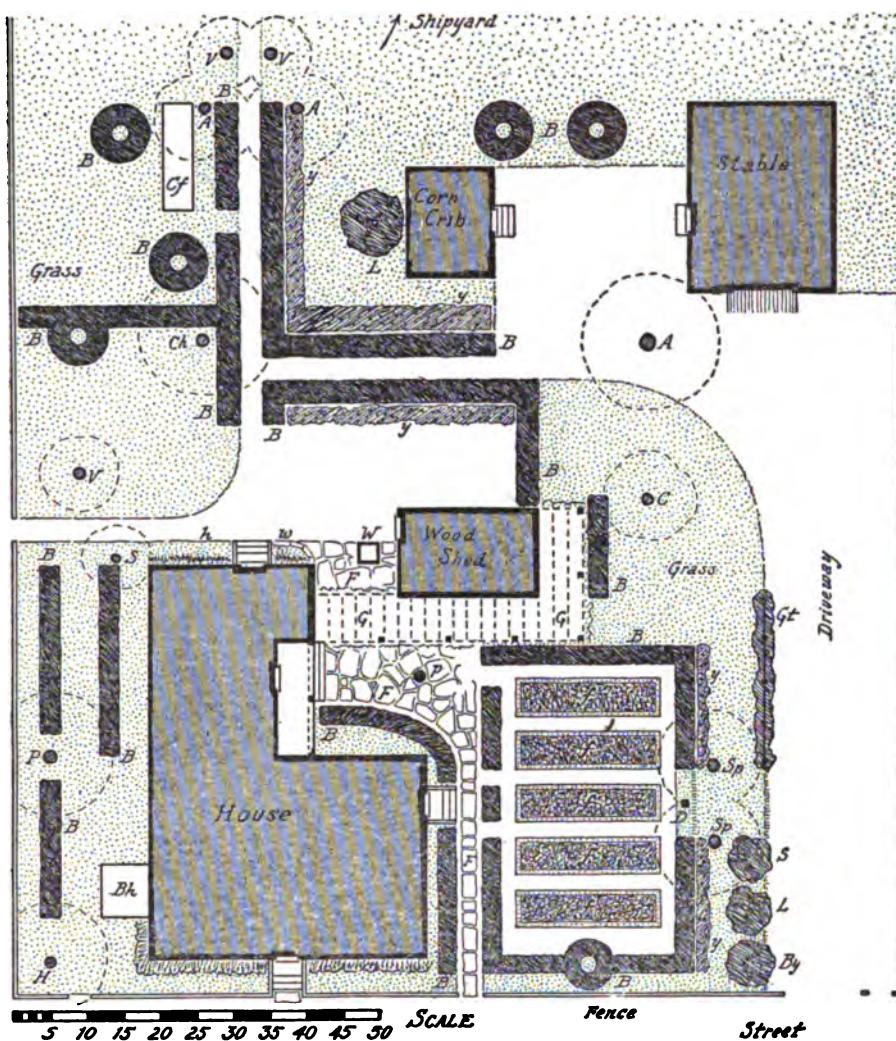


Fig. 24—Old Timothy Starkey Garden, Essex, Conn. (W. H. C.)

A—Apple	F—Flagging	V—Arbor-vite
B—Box	G—Grape arbor	W—Well
Bh—Bulkhead	Gt—Grape trellis	f—Flower bed
By—Barberry	H—Horse-chestnut	h—Honeysuckle
C—Catalpa	L—Lilac	w—Woodbine
c—Coldframe	P—Pine	y—Small planting
Ch—Cherry	S—Syringa	p—Pedestal
D—Drinking fountain	Sp—Spruce	

placed as to space or uniform height, will be found most effective, and if the note of our buildings be gray, it can be left in the raw except for an immersion in creosote oil, which sinks into the pores and helps preserve it.

If one finds an old box hedge or even an isolated shrub or tree, one has a treasure. Box is slow growing and consequently is much sought for by those making new gardens. Sometimes one finds it ragged and at first sight rather hopeless, but if it is pruned, not to a regular shape, but following the forms suggested by its deterioration, it may be made effective as well as unusual. We have noted several instances of such treatment.

Often one sees the house that is set in the field, bare, cheerless and without proper accessory, and it looks so hopeless we are tempted to pass it by, believing it beyond redemption. Perhaps, however, it is not so hopeless after all. If it were enclosed with a fence, and the enclosure made into a garden; if some medium sized evergreens were planted, flanking it to carry out the line, and if one could afford two or three deciduous trees, not to balance, but grouped around one corner, there is a chance for it. Where a composition is isolated in an open plot, and its ensemble can be taken in at a glance, it should not be treated academically, as the charm of such treatment lies in close association and the feeling, rather than the instant seeing, that detail balances detail and mass opposes mass. The academic treatment demands perspective and the view point on the axis gives tiresome results.

Sometimes on the country road, the sidewalk does not exist, or perhaps it is not on our side of the road. What then are the possibilities with our grass plot in the street? Is there a chance for the crocus in the spring or the wild aster and golden rod in the fall? And will your public allow such treatment to go unmolested? These are questions to be answered and on their answer hangs the fate of a very pretty feature.

Rarely it may happen, but if it should, lay unflinching hands on it and claim it as your own—the old watering place, the side drive which intercepts the crossing brook. This is one of those old-time features which our modern soulless road-maker is prone to destroy. It may be bald and desolate; shorn of all growth and “beautified” by the country road-maker—claim it and at

once set about its rejuvenation. Many are the shrubs, flowers and trees that grow by the water and perhaps in your rambles you may gather suggestions from some unspoiled examples. Real rustic wood with the bark on is not suggestive of Colonial methods; our rustication on the fencing must be without bark. Sawed slabs of chestnut, unedged, often work out well in problems of this kind.

Of course the roadway will require a light (as does our entrance) although normally it has none. Here again is a chance. If one really wishes to take hold of such a problem, it is very doubtful if any objections would be offered by the town authorities; generally they are only too glad for any little help with the town expenses.

Bridges are somewhat of a rarity, we fancy, in working out the problem of the old house, and yet there are so many little and big brooks at large, it is barely possible one might extend its aimless course through our grounds and in such case it may be found necessary or advisable to erect a bridge. This may be for wagons or pedestrians, and there are so many pictures of simple old English bridges that may be consulted and such definite information contained in the public records, that we might almost pass it by; for this reason we will be brief.

The old-time town bridge was frequently built on "cob" piers, filled with stone. The heavy stringers were laid over these and a simple squared hand rail and posts with cross braces between. When a truss was used, it was the king-post type. The foot bridge, commonly on two log stringers with a single hand rail, was sometimes laid on one. Although the log used as a stringer was in the rough, with the top sized down, it was never intended for rustic work and should not be so regarded.

There is frequently a great chance for diversion in design where one has the bridge as a basis to work on. It is little trouble to plant a shrub or two—some semi-wild thing—or a vine to wander over the hand-rail; or perhaps in the open a willow or a few poplars. This for the simplest types, but the bridge itself offers opportunity. Does not a wistaria arbor suspended over the water suggest something for the foot bridge; a motive half open, half lattice, with pendant blossoms drooping in the water? Or perhaps the clematis may mingle with the wistaria, or even

some other vine be added to perpetuate the bloom. There is the old covered bridge, which, reduced to the scale of the foot bridge, would probably not be too large for the place. Where the original model might on the sides be boarded in solid, the miniature could well afford lattice and it is possible to introduce a flat bay and seat if it be large enough for three spans. Yes, if you have a chance for a bridge, it is surely worth while.

Although the temples of Greece and Rome have stood for centuries and our own Colonial houses are tangible facts, the gardens of our forefathers are for the most part things of the past. Both the temple and the house were outgrowths of necessity and hence of practical value; the garden was the whim of a refinement, more or less matured; the toy of a temperament whose leisure, released from the drudge of bare existence, sought expression and outlet in things about it. When this controlling spirit passed away the garden often followed it; plowed under in a day.

That the garden is a constant care, one may readily see; relax that care and it will return to nature, so surely as its units are alive and things of nature. For this reason keep the garden simple; simplicity is frequently more effective than elaboration, and much harder to quarrel with.

According to our dictionary the garden is the gathering place of fruits, vegetables and flowers. But gardens differ from one another in a great degree; it takes comparatively few flowers oftentimes, to make a flower garden. Then, too, our ancestors, with the practical end continually in view, planted their vegetables and flowers together and very interesting the result must have been. Not that things were necessarily mixed up, but the flowers were a sort of flanking motive for the more serious consideration of the vegetables. We are of those who still believe that fruit and vegetable may be made a part of the flower garden, without sacrifice to its general purpose and effect. It was not so long ago that the tomato was used entirely as an ornament, being grown on a trellis, and the barberry is an old-time hedge shrub. The grape arbor frequently frames an entrance and the quince, currant and gooseberry have each their qualifying characteristics.

In one of our garden examples, the formal garden borders

on the street and the lot rises gradually toward the back by means of low terraces. Above the formal garden are two tiers of practically solid annuals; back of them a mass of sweet peas silhouette against the corn-planted terrace behind it, while the corn tassels melt into the foliage of the apple trees in the rear. Between the corn and the apple trees, however, are two terraces of vegetables, each with a border or low hedge of flowers in front of it. Another entirely different treatment has several rectangular plots, box and flower borders, in which one finds grass plot, kitchen garden, and orchard. Few shrubs are used and the flowers are limited as suggested.

The main axis of the garden is best if it can be continued on into the house as already described. Lesser lines may produce other outlooks or walks. The secondary axis crosses the main axis at right angles, generally through the center. This makes the center *the* important point and although it may be low and comparatively simple, it is still the governing point of the design.

Ordinarily, the garden is an enclosure and consequently the confining boundaries with the floral adjuncts are higher than the rest of the planting. If the plot be small, its subdivisions into beds should be very simple, probably ignoring diagonals and curves. That the main and secondary axis be coincident with paths is not necessary, but the general conditions of design call for some observance of their existence. More often than not, this takes shape in some emphatic detail in the outer bound and unless the plot be close to a balanced house, whose axis is coincident with that of the garden, the two side details may take differing forms and sizes. Too rigid adherence to the principles of balance often result in a setness not over pleasing.

Although the garden is, in the majority of cases, near the house and governed by house conditions, it may be away and even hidden from it. Such however, was not perhaps the best solution of the problem, as it fails to follow the old tradition, and a garden is best seen from the house, yet as we have remarked elsewhere, surrounding conditions govern individual cases.

In the planting of a garden, one should strive for a sequence of bloom and so arranged that in a balanced plan this fact will not be lost sight of. While the actual agents may differ on

either side of the axis, as far as their character and color may go, they should clearly *suggest* the intention of the plan, else the plan has no excuse for its existence. For instance:—the *extreme* corners are marked by white and pale purple lilacs; when these are gone, they give place to other varieties. These outer details should predominate

in size and color over the lesser and interior units, which are enclosed in box or sweet alyssum borders and these in turn by plank or brick edgings. With these lesser details, more abandon can be displayed, yet it is best that one bloom find its opposition on the other side of the axis. When all is said and done, we would wish for as loose a treatment as the character of our subject will permit, retaining

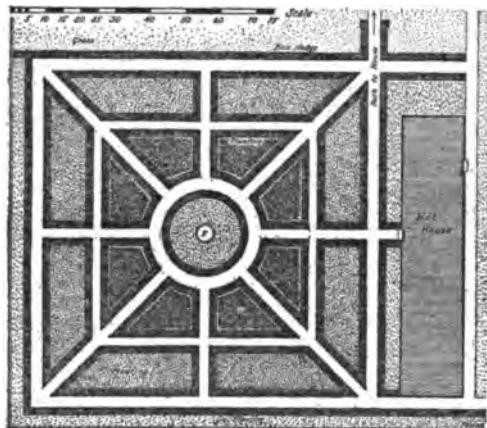


Fig. 25.—Allen Garden, Saybrook, Conn.
(W. H. O.) All beds raised—center
crowned. F—Fountain

only, perhaps as we have suggested, the true intention of the plan.

It is well not to forget the effective possibilities of the terrace under favorable circumstances; a side hill garden may be made delightful.

That color is a vital note, is undisputable and one realizes this more when one comes to the actual handling of it. We have already spoken on this topic in our chapter on Furniture; we might go even further in explaining that the complementary colors are red and green, yellow and purple, blue and orange and that such combinations are generally harmonious. Further than this, the yellow tertiary, citron, the blue tertiary, olive and red tertiary, russet, require for their theoretical balance, purple, orange and green, respectively and in small proportions. However this means nothing to one who has not a natural eye for color and it is probable, too, that woman is more often thus blessed than man.

White, yellow and red are naturally our most vigorous colors



Floral treatment of the garden path, Old Manse, Deerfield, Mass. A comparatively modern treatment, with all the flavor and abandon of the old



Allyn garden, Saybrook, Conn., showing the box borders with the greenhouse beyond. The layout of this garden is rather ambitious

The garden may grow skyward as well as spread on the ground and oftentimes to better advantage. It requires no elaborate planning, and any attempt at calculated stiffness is frustrated by the wild riot of unequal growth that usually results. Nor is it much care or expense



and consequently are used when one wishes particular emphasis. Care should be exercised with these, because of their positive qualities; it is very easy to overdo the thing. Naturally, retiring and toned colors may be used in larger masses than positive colors. A retiring color, against the glare of a white house requires mass to make it convincing; the conditions really require positive colors.

The limits of colors are not, however, within the garden enclosure; they extend beyond it including the whole estate. For this reason, beware of the red barn; it may clash with everything in sight; it may, also, be made to take its place.

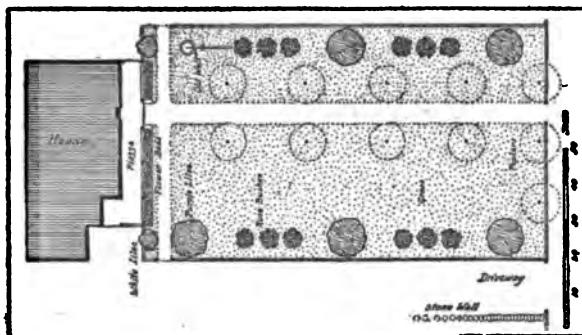


Fig. 26—West House, East Hampton, Conn. An old-time enclosed yard in which the old poplars replaced the old spruce of the original layout. Thus the motive is as old as the combined lives of the two trees

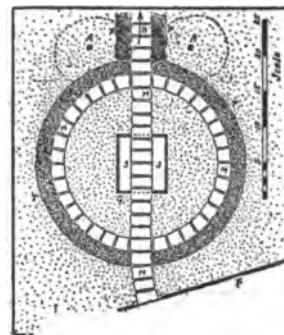


Fig. 27—A simple motive from a Vermont front yard. A, Pear; G, Grape arbor; H, To house; F, Fence; M, Marble flags; P, Tall perennials; S, Seat; T, Tulips

The pool is not, as far as we know, a common feature of the old garden; we have met with only one example and that was intended for a fish pond, being set low enough to intercept an underground flow. The lining of this example is of roughly dressed granite and we would suggest such or a brick lining in preference to cement. If the pool be used at all it would be perhaps safer as a side issue or as an independent detail altogether. The fountain does not belong here.

Although we would advise one to gather as much local information as possible regarding old gardens, and to use this in governing the further arrangements, it is not necessary that one should confine himself so closely as in the case of the house.

The origin of the two things were different and at the time the Colonies were prosperous enough to afford time for gardens they were in position for better intercourse and interchange of ideas. So while we would suggest that one keep as near home as possible, it would be but natural if he gathered garlands from a nearby field.

The examples pictured in this chapter have been carefully measured and most of them restored, and such restorations are almost positive. Such examples as were too uncertain to be conclusive have been discarded. From the descriptions given by those who have known them and a careful testing of such on the ground, one may arrive at very plausible conclusions. Where a garden is simply allowed to go without being plowed up, it leaves in the turf the imprint of the path, borders and general forms and if one will take the pains to test suggestions with the foot, the problem is often less difficult than appears at first sight.

Of garden furniture, we should be sparing; it is easy to overload. The sundial frequently marks the center and the less common bird bath or drinking cup is sometimes found. These can be imitated in cement, but care should be taken to retain the color and texture of the local stone.

Good old-fashioned designs for the garden seats in wood have been reproduced and are frequently valuable in our garden. It might be well, however, that these be unpainted and given a thorough application of creosote oil; the legs particularly should be soaked in it. They may be used in the natural wood if practical, but a coat of paint may be required. Be careful of the use of white; it may be too strong for the setting. Do not place a seat to look into the sun, as its use is thereby limited.

The summer-house and the arbor make the garden habitable. They should never be rustic and the caution as to white paint should be remembered here, for the office of these in the garden is rather that of a background than as a straight ornament. What they may effect in this last capacity should be done as a subdued silhouette. Their placing is confined to the rim of the enclosure, rather than its center and for the most part they are located on the axis. Thus situated they command a view of the garden on one hand and whatever vista or general view we have planned to meet the emergency.

As a step between the enclosed garden and the lengthened path—with which, by the way, one can do delightful things in the way of banking shrubs and touches of smaller planting—there is a floral treatment which is merely the elaboration of a certain short portion of some important path. Beyond this elaboration

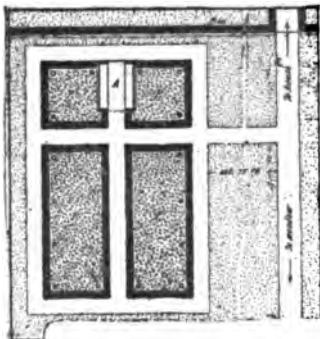


Fig. 28—A simple motive for the flat country. In the view from the arbor the upright trees destroy the flat monotony of the landscape. A, Arbor; P, Small planting; L, Larch

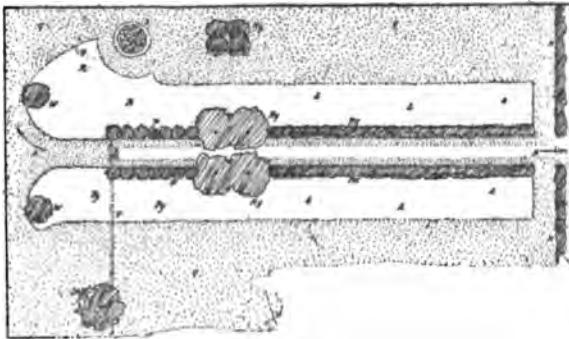
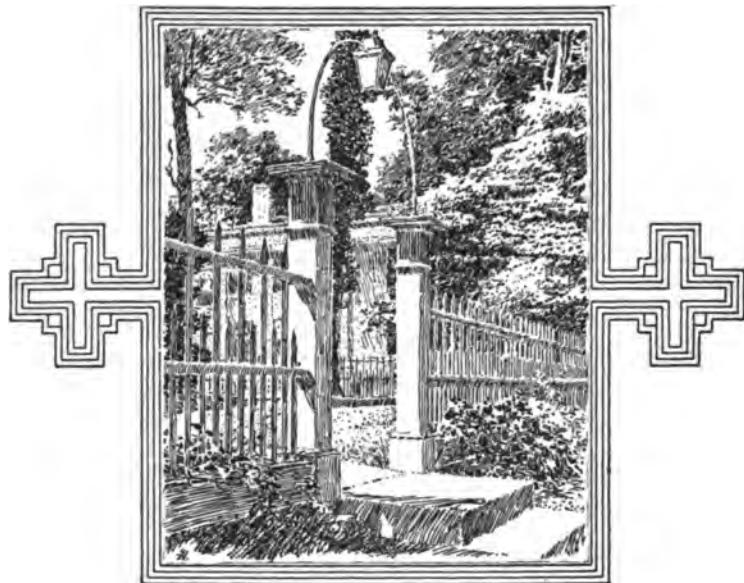


Fig. 29—Plan of an elaborate walk from house to vegetable garden. H, Hedge; L, Lilies; Lc, Lilac; P, Peony; Py, Poppy; Px, Phlox; T, Slight terrace; R, Roses; W, White Lily; S, Small planting; Hy, Hydrangea; A, To house, B, To garden; G, Grass

there may be no attempt to decorate. For him who has not the time to dally in the garden, it is a special treat. If one be busy there is little time lost by it and, we can believe, a whole lot gained. With this treatment, the arbor may be used to advantage, as one can pass through it and its natural location would seem to be in the center.

We can hardly close this chapter without a brief reference to wild flowers. Whether they may be used in our garden scheme is a question to be determined by the case in hand, but they surely have utility as informal borders and simple little compositions of their own. That they should not play a too important part with the house as a background is also evident. Golden rod and asters in particular have varieties enough to effect an extended flowering. Perhaps one might try a simple garden, entirely of wild flowers. It would differ from our domesticated garden in many ways; we would be using another palette, other brushes.



Chapter Ten
FENCES & ENCLOSURES

THE question of boundaries has ever been one of grave dispute with the world at large; let there be no doubts left as to yours. The function of the fence is, besides that of an enclosing barrier, one of boundary. So that if your fence in itself be not lasting or exact in its location, it should be supplemented by a stone bound-stone, plainly marked and duly recorded in your plan on file. The stone wall and snake fence are examples of the indefinite and crude bounds and while they may do well enough as barriers for lands of little value, their use on cleared and more valuable lands is not ordinarily advisable. The snake fence is, in fact, from its character, outlawed as an inter-boundary. There are others of a like rambling and indefinite nature which are sectional, such as the stump fence of Maine. These, however, have their use, as interior barriers.

Old-time bounds were vague and passing; an oak tree cannot be expected to last forever. Many fences, which were evidently intended to run straight, on the contrary described most

beautiful curves. Thickness of growth or perhaps more often a rough land contour, where one frequently lost sight of their line and consequently their direction, was largely to blame for this. Such old lines it is best to preserve as they exist; their location has probably established them, over and above any description.

The laws of a state regulate the character of a fence—that is, certain materials must follow certain lines and be of a certain height to cover the law relating to a “legal” fence. Before building or rebuilding, this law is a good thing to be familiar with. It is also understood that each party to the boundary shall maintain his half of it and erect it, if it does not already exist. You can only exact of your neighbor, for his half, a legal fence; if you desire something different you must make up the difference in cost—perhaps maintain the whole thing.

A boundary line has no width and therefore the modern wire fence comes nearest to locating it exactly; the wire being on the line and the posts on the property of the maintainer. This is the scheme of all similar fences, but with the stone wall, the center is commonly the line, which fact gives either party the right to add stone to it, an important consideration with the old-time farmer.

A fence or barrier on the highway is supposed to be located entirely on the property of the abutter; but our records show that the public thoroughfare was constantly encroached upon. We wonder at the narrow streets of Boston, yet they were ample as laid out. Our forefathers stole lands from the highway and in many rural districts the practice has not been discontinued.

Perhaps it might be well to say a word regarding the common old fences one may find, and probably the oldest are the stone wall and the rail fence, the latter being the older. The sort described in our early records was the common form in which the posts were pierced to receive the rails. Where one has such in fairly good condition, and of some length, it may pay to keep and repair. It is not, however, a good model to rebuild on. We have spoken disparagingly of the stone wall and, in so doing, had in mind the common result of the hasty throwing together of all sorts of stone from the field.

If the wall is really *built*, it may last indefinitely, provided

the public will let it alone. There is, however, the common trespasser who will use your land as a thoroughfare and pull down enough of your wall to make his passage easy. There is also the rabbit hunter. This annoying fellow, upon finding his quarry sheltered in your wall, will demolish it indefinitely in dislodging his victim. Poison ivy finds shelter in it and is almost impossible to dislodge. Of course it stands to reason that any wall laid in part cement mortar, no matter how roughly done, is superior to a dry wall. Such work, however, adds expense. It can, however be laid to imitate a dry wall by keeping the mortar back from the face of the masonry. If the top of the wall be relaid in mortar for about a foot, and the side pointed at leisure, it will foil both the general public and the rabbit fiend. It is a common practice to extend a masonry foundation about three feet below the surface of the ground to avoid heaving by frost, and such, of course, is the best practice; but with the stone wall, its length makes such treatment very expensive. The old wall had, usually, a large footing sunk below the surface, which, together with its width and the comparative lowness of the superstructure, made it firm and secure. If one is bothered with outside invasion, broken glass set in a concrete top will probably be annoying enough to be effective.

The modern wire fence is the cheapest and easiest to keep in repair, and by wire we do not mean the wire strand. There are many wire-mesh fences on the market, one-half of which perhaps are fit to spend money on. A good lock joint, weld, or knot is essential and further, a mesh that will stretch evenly and without losing shape. The wire fence is of course at the mercy of the wire cutter, but it is easily repaired. Ordinarily a locust or chestnut post may be used; but they will last longer in the ground and pay for the extra trouble, if the butts are treated with creosote, charred or dipped. Farmer's Bulletin, No. 387, describes these several processes at length and more fully than our limited space will allow, yet we would suggest briefly that the posts be thoroughly seasoned so as to exclude the water as such repels all preservatives. Charring can be done over an open fire or the post can be saturated with oil and burned in this way. Care should be taken not to burn too deeply. As painting is inferior to dipping we will pass over it. Petroleum



An old enclosed front yard; a rapidly disappearing feature, which was very common at one time. It suggests small planting and climbers on the house



A new gate in an old fence, which anticipates the possible breaking of pickets by a cap and likely sagging by the introduction of a brace



A gateway in the style of the Greek Revival in which are some rather good and interesting details. The fence sill is well supported



There is no elaborate treatment to this fence, but it suggests being put there with a purpose. There is a stone base or foundation below the wood fence sill

tar, coal tar and creosote may be used for the latter treatment. Perhaps the best results are gotten by immersing the *heated* post in coal tar creosote.

Sometimes it is best to treat the entire post. In any event the top, which is cut on a slant to shed the water, should be so treated. Posts are commonly set three feet in the ground and the treatment should extend at least one foot above. The exposed portion of the fence may be painted later; creosote oil and paint in equal parts being excellent for either dipping or brush work.

Posts for wire should be spaced about ten feet apart; not more than twelve at the most. Loose stone or pebbles at the bottom of the post hole will help to keep the butt of the post from moisture. One of the best methods of treating a wire fence is with a strand of barbed wire at the top, where it is out of the way of the stock, to which it is a menace. A strand of barbed wire on each side of the post is a mean thing to straddle over. If a piece of wood be made fast to the tops of the posts and extended toward the property of the maintainer, the two strands may be made more effective by spacing them one foot apart. These strands should be pulled as taut as possible. Should dogs, or other animals, annoy by digging under the wire mesh, a strand of barbed wire sunk slightly in the ground or a small sunken stone wall will probably abolish the evil.

Of late years we hear much of concrete posts. These are easily made at home from home-made molds of wood. The common form used is the tapering, which saves material. Wire re-enforcements are used in their making, and incorporated staples allow for the attaching of the fencing. Great care should be exercised in their setting, as the staples establish the height of your fencing and cannot be shifted; therefore they must be in line. The cement post is not so strong as the wooden post of equal size, but unless it has to stand the strain of uneasy and inquisitive stock, it will probably answer all ordinary requirements. Farmer's Bulletin, No. 285, gives a detailed description of their manufacture.

So far we have dwelt only with the common forms of fencing as bound and barrier between estates. We have mentioned these first because of their prime importance; they have little

artistic value. More interesting is the front or highway problem and with such, varied treatments arise from varied conditions. There are many considerations which go far to establish the lines on which a problem may be solved. The relation to the highway, both in level and in distance, the presence of overshadowing trees, the importance of the highway itself and last but not least, the style and general character of the house. There are those of course who open up their grounds to the invasion of everything that travels on legs by omitting the fence, but this, we feel, is a great mistake.

The reader has, without doubt, noticed the little enclosed front yards of which a few examples are left. Generally these were the width of the house, such being their early form. This form of yard follows an old tradition dating back to feudal times. In those days the habitation was the castle—a hollow square—a fortress, which the times demanded. With the decline of feudalism, the hollow square dropped one of its sides, but retained its semblance in a high wall. Later, the two flanking sides or wings gave place to the continuation of the front wall. Still later, the enclosure became commonly a terrace, the fence superseded the wall. Here is the evolution of your front yard, which was in favor even later than the year 1800. It became simplified, however, prior to this in eliminating the flanking fences. Both in its original and later state, it was a thing apart from the extensions of the front bound, which were of a simpler character. With the later form the front portion, which stood for the house, perhaps included in its motive the side gate and the driveway gate. This difference in the treatment of the front fence from that of the flanking fence is characteristic of Colonial work and generally holds good with all but the simplest problem.

Our earliest barrier was the pale or picket fence and it has changed but little in the simpler examples of to-day. Old English specimens show many variations which have not survived with us. The roughly shaped pickets of unequal width, left to weather, or stained gray or brown, may do admirably for a simple cottage, in which one may be retaining the weathered effect. Such efforts require little or no gate-post and the gate is really a section of the fence.

There are many forms of the picket fence: sharp and square

tops, jig-sawed and capped, but in all they rely on the same principles of construction. There is the post, the top and bottom rails and the pickets. The posts may be treated, to prolong their usefulness, as has already been described, but for a short fence one will find that a piece of iron, one and one-quarter of an inch square, set in a stone or concrete footing, will out-wear the wooden post enough to more than pay the initial expense. This iron may not extend the full height of the fence, but be bolted to a wooden plank post, serving to support it. If stone is used, the iron may be set in sulphur (the old-time custom), instead of lead. In constructing boxed fence posts with the above principle, it will be necessary to use a plank form to build upon, and these are best affixed with the aid of an iron strap welded to the iron post at right angles, through which screws may be driven into the plank forms. This scheme is, however, limited; as a heavy gate cannot be hung upon it without re-enforcement, although the fence should help to steady it when the swinging member is closed. One occasionally runs across an example of the later period, set near to the highway in which the balustrade of the porch or other similar feature is followed in the fence and which classes the two at once as part of one scheme.

It might be well to mention the fact that all picket butts, fence skirtings (or bases), which are liable to come in contact with the ground should be treated by some accepted method. The decay of such parts of fences is their great drawback, and the extra labor and expense will pay for itself. Later and more elaborate forms of the picket fence anticipated such difficulties by superimposing the fence on a low brick wall; other variations returned again to the wood, as a base.

While the picket fence as a front feature is ordinarily "extended" by a simpler type in wood, the stone wall may be used in its stead, and such should be laid in mortar. If in such combination a stone footing be continued under the wooden portion, with perhaps the additional note of stone gate-posts, the harmony will be more complete. It is hardly necessary to add that the fence caps should be of wood. A more elaborate and delicate effect may be obtained by substituting brick, or perhaps a combination in which the stone is the core of the extended walls only, leaving the base, cap and post of brick. There are cases

which warrant the use of the stone wall in front of the house; ordinarily, however, this function should be taken by wood with a wooden structure.

The common old type of high board fence is a telling feature in front of the small orchard or garden of small fruits. With it there are many chances for variation. Boards may be of varying widths, perhaps laid an inch and one-half apart, the tops saw-tooth or varying in height. The high price of wood, however, makes any extended use of this material, for such purposes, out of the question for most of us.

While the stone wall has little chance of fitting into the front scheme of the small estate and the wooden house, it may be just the thing for the larger layout, and particularly in case the buildings set well back from the street. As wood is always a material that seems to fit into close fellowship with the wooden structure, the wooden fence may be used here as an enclosure, independent of the fencing scheme of the highway. At all events, the remoteness of the house naturally suggests a less elaborate outlay in the character of the highway barrier.

Where the land is higher than the roadway, a stone retaining wall may be used and if the grade is not high enough to make a sufficient barrier of it, a surmounting motive may be added. Where your house is remote from the road, a picket fence makes a good supplement and allows of a view through it from the highway. If the buildings are near the road, a hedge may answer the purpose, or perhaps a wire or lattice fence, on which should be grown some sort of vine, will be suitable. The plain wire fence hardly has a place here; it may be used as a core of a hedge and thus establish its permanency.

One may gather from the foregoing that the nearness of the house to the highway demands privacy; its remoteness, openness. The important highway suggests more elaboration than that of the minor and remote road. Trees which shade the front yard, limit the possibilities of your flower garden to such varieties as do well in the shade, and the litter that falls from them stains your fence and suggests anything but white paint.

The tree itself may play an important part in the line of demarcation by suggestion. While frequently supplemented by the fence or wall, it may be used alone as with a driveway or



An old fence at Salem, Mass. Built at the height of the Georgian influence. The design is clean, well-studied and well-proportioned, as is readily seen by a careful examination

राजपत्र विद्युत नियन्त्रण विभाग की संस्थानीय विद्युत उपकरणों का विस्तृत वर्णन करता है।

प्रथम छवि में एक बड़ा विद्युत उपकरण का अंदरूनी दृश्य प्रतीक्षित है। इसमें विभिन्न विद्युत उपकरणों की संरचना और विकास का अवलोकन किया जा सकता है।



द्वितीय छवि में एक बड़ा विद्युत उपकरण का बाहरी दृश्य प्रतीक्षित है। इसमें विभिन्न विद्युत उपकरणों की संरचना और विकास का अवलोकन किया जा सकता है।



lane. If such are newly planted allowance should be made for their growth and expansion. The common fence, on the rail principle in which the rail is a sawed board, makes an excellent auxiliary for maple and elms. Trees, however, take time to grow and the fulfillment of your feature may take years.

The hedge offers many possibilities for front and interior barriers, not afforded by the fence or wall. It is at once from its nature, a part of the landscape and melts into it more readily than other more artificial contrivances. If one is starting a hedge we advise strongly the incorporation of a wire fence in the center as a core. If it is to be a front barrier, and as such must be made to last indefinitely, it had best be made with iron or concrete posts in the manner already described. Any good mesh fencing or barbed wire strands will serve the purpose and perhaps the former will lend itself about as readily to our ends as a discourager of invaders as we could wish, provided a strand of barbed wire be just sunk in the ground and another stretched at the top. These last will dispose of the dog and the climber. The trespasser is a nuisance. He may have the best intentions in the world and yet he will insist on making a highway of your grounds. Have you a nursery of choice plants, he will find it; have you wasted a year over grape cuttings, he will blunder into them; whatever you wish to preserve he will destroy as if fated. Nip this in the bud; later it is hard to stop.

We commonly understand the hedge to be of evergreen, spruce, hemlock, cedar, box or privet. As a matter of fact most any hardy flowering shrub will answer, provided it be not located where its blossoms offer too much temptation to the public. Barberry and japonica are in themselves more or less difficult to penetrate, but there is the tough hided ox and the fool cow to be reckoned with.

We have already spoken of the vine-clad fence and as a quick-growing substitute for the hedge it is both interesting and effective. For the summer problem, one sees but little of the naked vine and fencing and hence nothing is lost; but for winter, the snow-laden evergreen hedge has a charm of its own and even the deciduous article is more convincing than the skeleton of loveliness offered by the clinging vine.

Where one boasts of the kitchen garden, the low hedge is

often effective as a defining line; it may be utilized as a wind-break as well. If the garden is small and to be spaded, one need allow only for the unloading of dressing and removal of litter, but where the plot is large enough to plow, the ends should be left open to allow of the turning of the plow team. Of course the board fence may be substituted for a wind-break or it can be used back of the low hedge in conjunction with it.

The laundry yard is not a feature of the Colonial style, nor is it properly a part of any problem other than in the more elaborate house. Even then it is properly a part of the house, as is also in a measure the enclosed front yard. When detached, however, it may be handled independently. The diamond lattice and the arbor offer our best suggestions for the above; it requires that, while serving as a screen, the air shall, at the same time, draw through it.

There are some fences, characteristic of various localities, which, while being altogether inadequate for practical, or accurate inter-boundaries, are excellent as front or interior decorative fences under certain conditions. We recall two of a rather diverse nature, which will serve to illustrate. In certain parts of Maine, where a piece of land has been cleared of timber, the stumps have been removed so as to make the land available for mowing. These have been utilized as fences by throwing them over on one side with the abbreviated roots reaching skyward. Prior to their removal, the land has been very likely burned over to get rid of the brush and the stumps had become charred; this serves well in prolonging the life of the stump. There is nothing more picturesque than a stump fence, but it demands the real country and is probably best as a side extension only on the front. It forms a most excellent trellis for vines and if these be of the brier sort with the occasional judicious interjections of a little barbed wire the ensemble is well nigh impregnable.

The other, which is of entirely different nature, is the flag fence of Connecticut. Of this we have noted but a few specimens. It consists of more or less rough slabs set on end in the ground. Its slightest grave-yard suggestion is almost eliminated by the stones being set close together. Where an effective barrier is desired this will not answer and yet it might be effective as such, if auxiliary to a retaining wall. It needs

in any case the brightening effect of flowers and as a wind-break and backing to small planting, it may flank the foot path or be used in enclosing a small garden.

Probably the most interesting feature of the fence problem is the gate or gateway. Its treatment is of wide latitude; its possibilities, almost without limit. One may evolve new ideas through a process of well judged combinations, but whatever the result, it should be limited by the principles of good construction. Under all circumstances it should belong to the place in which it is used, suggesting either in line or detail the family resemblance to the all-important flanking barrier.

In its construction, the first principle is, that the post on which the gate is hung and which naturally receives more or less side strain from the weight of the gate, should be either rigid enough in itself or so braced as to resist this strain. The second principle requires, that the gate itself shall be so braced as to keep its shape and be free from the danger of sagging. Unfortunately, most old examples have not been as carefully considered in these respects as we could wish and, as a consequence, have suffered from it. It is not pleasant to contemplate a delightful old design in which it has been necessary to use methods foreign to the original conventions, to overcome the ever-to-be-considered question of gravity. "Why not have done this in the first place?" one very naturally asks and we heartily echo the query.

A gate is in repose when it is shut and when it is open, and in both positions it should have something to rest on. When closed, the post on which it is hung, being secured to the barrier of which it is a part, is capable of resisting the strain. One can readily see that the weak point is when the gate is off its two supports. Very naturally, the wider the gate, the greater the strain and this at once brings us to the ordinary farm gate, as a simple example of the type. The convenient form of this, is that which we find pictured on old plans of the Elizabethan and First Settlement periods:—sawed rail with a brace, extending from the foot of its extreme swing to the top of the high post on which the structure is hung. There is a tremendous leverage exerted on this big post and it must be very solid and well set to keep straight. In some parts of the country where granite

quarries were formerly worked, one finds many rough ashlar underpinnings and very likely great stone posts, which support great gates with apparently as little trouble as if they were paper.

There is a later form of the above gate, which has abandoned the high post and long brace; to this contrivance, one is



Fig. 30—Balanced gate and stile

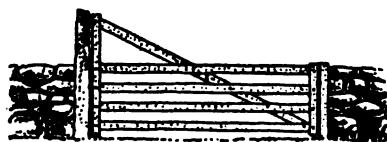


Fig. 31—Proper bracing for a wide gate

simply a slave. The best farm gate we know of is that commonly seen in parts of Maine, but which seems to be known elsewhere, although we do not remember having seen it. It gets rid of the leverage at once by adopting the principles of balance. The section of a tree trunk which takes the most of the strain is pivoted on the top of a good stout post somewhat higher than the adjoining fence or wall. The gate hangs from the longer and lighter end, while the balancing end, which is also the butt of the tree, extends on its side of the post about two-thirds of the distance of its opposite. On the end of the butt is a wooden box, in shape much like a mason's hod, into which field stones are heaped, until the necessary balance is effected. A good, strong, true post and a sufficient beam are all that are necessary to dispose of our gate worries.

The house gate is, after all, the one where variety may be secured. Ordinarily it has gate posts which are emphatic enough in design to become a feature, but sometimes they are insignificant, being, with the gate, but a part of the fence. In its simplest form this was neither the best of taste, nor convenient, as it often caused the stranger much confusion in its location. Developed, the type had its excuse in the equal spacing of ornamental fence-posts across the entire front; in this scheme it was judged unwise to disturb the simple spacing of these units. We cannot help thinking, however, that the gateway should have some definition and individuality of its own,



This fence is unusual as well as simple. The lattice effect is not elaborate enough to be tiresome and the woodwork is kept well above the dirt



The enclosed walk is often a feature in which one is lost to the influence of the outside. It controls narrow confines and leads to a definite openness



The Cowles gateway, Farmington, Conn. This is rather an unusual treatment, full of possibilities. It could be much lighter and a lantern might replace the urn at the top.



Entrance to the old Garrison house, Flushing, Long Island, N. Y. (now destroyed). This old house stood on its raised terrace above the main street and was fairly isolated.

if only from the practical point of view. In any event the whole motive should be simple enough to belong to the house and the style should not be foreign to the locality. There should be good material at hand and such and such only will give you the individuality of the home touch. It is true that foreign lines may be adapted, but in so doing, one must grasp the true intention of localism and be governed by it. In the mass of gateways, the two posts are separate, but sometimes we find them yoked or connected by an arch. In some later examples, too, the iron motive which served to support the lantern, also affected this. Most of this iron-work does not belong to the rest of the design, being attached in any way that came handy; its outgrowth from the ball or urn is of course bad taste.

Old-time gate-hinges were of the strap pattern and this is as it should be. For farm gates, the fastening may be a simple wooden latch or bolt, or where it may be tampered with, a hasp and padlock. The wooden latch might also be adapted to the gate of the house front motive; that is, in simple and primitive types; more elaborate problems might use the old-time door latch with effective results, particularly if the same be of iron.

The entrance without the gate is not a thing to be advised. There are few conditions under which it may be used without sacrifice to privacy and independence. If your entrance passage be fenced in with hedge, or otherwise, contain nothing of a private nature (as flowers), and be entirely cut off from the grounds proper, the gate may be omitted. In like manner, the entrance which relies on steps from the street level to the higher grade of the house, may be more effective without the member in question.

In the pleached entrance lies, perhaps, the best method of treating the opening in the hedge; it always counts for what it is. Generally it is unclosed by a gate, but the latter may be used nevertheless with success, provided its lines are made to fit those of evergreen motive.

The ordinary turn-stile has possibilities, but one will probably have to look for examples on the other side of the water as our ever restless native could hardly be content with such a primitive contrivance. There is a common English stile, which provides for the passage over the wall by means of steps on

either side. Occasionally we see this here, and there is a variation, in which the steps are stone flags built into the wall, each one free of its neighbor. While the stile is far from fitting every problem, it has excellent possibilities and should by all means be included in your list as such.

We have spoken of the fence problem as one of new building; such will be the majority of cases. The fence, as ordinarily constructed, was short-lived and when it passed, it was rebuilt on up-to-date lines. It is only with those who have had the means and the inclination, that some old and elaborate examples are allowed to exist, or with those too poor, or otherwise occupied, to rebuild.

The old sign board is a distinctive ear-mark of the old-time tavern and savors of the post-road and the stage-coach. As a possibility in our reclamation, it can have but one use:—that of bearing the name we may have chosen, for it is a common frailty amongst us—that of naming things—and as our old house is frequently a tavern, it can hardly be out of place. Our only care should be that the name does not suggest a tavern, else there may be much cause for annoyance and further the sign should be well fastened to elude the honest curiosity of the souvenir hunter.

Old signs were simple enough in the round, whatever their pictorial embellishment might be. They were suspended from posts, standing usually on or near the street line or perhaps hung from a pole between two trees. For a farm, it might be hung from the extended gate-post or, in the more pretentious estate, take the place of the suspended lantern above the entrance gates. In any event, its utility is unquestionable as an identification for the stranger guest. It voices the sentiment and hospitality of times that are gone, but which in their passing have left a mellow glow, through which one sees dimly, yet feels more, and though the men and the times are moving steadily backward as we advance, they have left a treasured heritage—the old house.

GLOSSARY

- Architrave.** The lower division of an entablature, or that part which rests immediately on the column. Also the group of moldings around a door or other opening—the “trim.”
- Batten.** A strip of wood used for nailing across two or more pieces to hold them together.
- Butt.** A kind of hinge secured to an edge of the door and to the face of the jamb which butts against this edge when the door is shut. A loose-pin butt is one from which the pivot pin is removable.
- Console.** A bracket with a scroll-shaped profile.
- Corbel.** A projection from the face of a wall to support a superincumbent weight.
- Cornerboard.** The upright L-shaped member, usually made of two boards, covering the corners on the outside of a frame house.
- Chamfer.** The surface formed by cutting away the angle formed by two faces of a piece of timber, stone, etc.
- Cove.** A concave molding. Used especially to designate the molding at the junction of side walls and ceiling.
- Dentil.** A small rectangular block in a series projecting like teeth. The series is called a dentil course or dentil molding.
- Entablature.** In classic architecture the architecturally treated wall resting upon the capitals of the columns, and consisting of architrave, frieze and cornice.
- Entasis.** The slight curve representing the departure from the vertical in the shaft of a classic column.
- Furring.** An application of wood, brick or metal to a wall, beam or the like, to level a surface as for lathing, plastering, etc., to make an air space or to make the wall thicker for another reason.
- Framing post.** An upright timber forming an integral part of the frame or skeleton structure of a building and supporting a girder or plate.
- King-post.** A vertical member connecting the apex of a triangular truss with the base.
- Louvers.** The sloping boards set to shed rainwater outward in openings which are to be left otherwise unfilled.
- Muntin.** A slender bar forming a division between lights of windows, etc.
- Palladian (motive or window).** Referring to architectural forms founded on the work of Andrea Palladio, an Italian architect of the 16th

